King County

Department of Natural Resources & Parks

Information Technology Service Delivery Plan

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Executive Summary

Information Technology (IT) is concerned with the use of technology in managing and processing information, especially in large organizations. In particular, IT deals with the use of computers and computer software to convert, store, protect, process, transmit, and retrieve information.

This document is the first edition of an IT Service Delivery Plan for the Department of Natural Resources and Parks (DNRP). DNRP is a large department with very diverse lines of business. Thirteen department IT supervisors and managers and six business line managers and their staff contributed to the creation and review of this document. Please refer to Section 1 for a listing of the IT and business managers involved with this effort.

The DNRP mission is to "be the steward of the region's environment and strengthen sustainable communities by protecting our water, land and natural habitats, safely disposing of and reusing wastewater and solid waste, and providing natural areas, parks and recreation programs." In alignment with the department mission, DNRP has stated seven goals:

- **Leadership**
  Be a high performance regional environmental and resource management agency by providing high quality services, working in partnerships, and leading by example.
- **Environmental Quality**
  Achieve a net gain in environmental quality by protecting and restoring the natural environment, ensuring public health and safety, and exceeding environmental standards.
- **Waste to Resource**
  Regard the region's waste products as resources and minimize the amount of residual waste disposed.
- **Community Investment**
  Contribute to healthy communities by providing recreation, education, and sound land management.
- **Price of Service**
  Price our services reasonably and competitively, while delivering the highest value to our citizens and maintaining safe and reliable systems.
- **Customer Satisfaction**
  Meet the needs of our customers through valued, high quality and responsive services.
- **Employee Involvement and Morale**
  Be a forward thinking workforce where employees are engaged in our business, involved in decisions that affect them, and understand their role in achieving the DNRP vision.

The IT challenges associated with achieving the DNRP mission and goals are listed in section 2. Some examples are:

- Operations & maintenance of the department level data management systems.
- Development and maintenance of department specific applications (call tracking, illegal dumping, scientific, Puget Sound Fresh, etc.)
- Support for department specific websites (Parks, Solid Waste, Shoreline Management, etc.)
- Increase and improve the delivery of more timely financial data.
- Transfer of Parks facilities located in urban areas
- Maintenance of adequate equipment replacement and software upgrade funds
- Operation of security cameras and other devices for staff and customer safety.

- Modernization of facility LAN infrastructure to allow full integration with VOIP
- Implementation and support for the technology needed to accommodate the computing and storage needs of very large computational models.
- New approaches are needed to warehouse scientific data and provide better accessibility.
- Development and support of complex, integrated numerical modeling systems
- Coordination of DNRP migration to the new County web content management system.
- Web Team support for the development of new websites within the new Web Content Management System.
- Continued O&M for specialized systems and interfaces to laboratory equipment at the Environmental Lab.
- Management of data and interfaces with remote telemetry equipment (river gauges, lake buoys, etc.)
- Support for increasing IT needs with limited staff resources.

In addition, the department will strive to meet the strategic objectives outlined in the 2006-2008 King County Strategic Technology Plan. Some challenges which will be encountered in achieving these overall County objectives include:

- Planning and implementation of server hardware consolidation where feasible
- Standardization of desktop computer hardware and software to the extent possible
- Planning and implementation of thin client desktops where appropriate
- Alignment of hardware replacement policies with equipment replacement plans
- Implementation of increased systems security configurations without damage to business continuity

It is expected that all of these challenges will be approached in some manner over the next year.

The IT functions performed by department IT staff and department non-IT classified staff are detailed. Department IT functions are grouped into 5 major areas:

- Customer Services
- System Services
- Business Applications Services
- IT Planning
- IT Administration

Section 3 summarizes the IT functions performed by approximately 77 DNRP staff. The full detail of the IT functions performed by DNRP staff can be found in the updated Total Cost of Operations (TCO) workbook located in Appendix G.

A generalized list of IT functions that DNRP receives from central IT is provided within section 4. The standard functions which are provided to DNRP by Central IT are:

- Network
- Internet
- Telephones and voicemail
- Email and calendaring
- Active directory, including Domain controllers, DNS Services, Terminal Services, and Root controllers (Child Domain PDC/BDC provided by department IT staff).
- Blackberry Server
- Enterprise helpdesk
- Enterprise applications
- Enterprise data center & operations

- Enterprise software licensing
- Enterprise security & privacy
- Strategic planning
- Technology governance
- Countywide IT contracts
- Enterprise projects
- Enterprise IT training

The optional and/or custom IT functions which DNRP receives from Central IT include:

- Radio infrastructure support and maintenance
- Application development and support
- Server hosting
- Printing and copying
- Video and photography

At this time, no Service Level Agreements (SLA's) exist for Central IT functions received by the department. Work will be initiated during 2007 and 2008 to develop SLA's for business critical functions provided to DNRP by central IT. Relative to mission-critical regional-network (fiber-optic service) support, WTD will need to create a SLA with Central IT (and commercial service, i.e. Comcast) supporting a high-degree of uptime and emergency support (to be specified). This need will become critical within the treatment plants beginning late 2007 as new fiber-optic process network is installed at South Plant, to be followed in 2008 - 2010 by Westpoint and Brightwater, and with regional connections (plant to plant) becoming critical as early as 2008.

A listing of the IT support and service contracts that DNRP maintains with governmental agencies and private companies for IT services such as applications, hardware, network, and other IT services is provided in Section 4. At this time DNRP maintains 50 agreements for such support and services.

The number of IT end-users working at each DNRP office location can be found in Section 5. An end-user is defined as someone with login access to a computer. The tables in this section detail approximately 1779 end users working at 47 different locations in King and South Snohomish counties. The number of end users that can be totaled from the tables in Section 5 does not precisely match the actual number of end users in the department because of the number of staff who move between multiple work sites.

The table in Section 7 identifies current and future IT capital & operating projects being managed by DNRP. There are currently five significant IT projects being managed by the department and nine future projects in the early conceptual planning stages.

Section 8 provides an inventory of IT hardware equipment categories and equipment types, and both commercial software and custom developed software in use by the department. Hardware categories and types are described in **Appendix B**. The list in **Appendix B** is illustrative, is not intended to be all-inclusive. Please see **Appendix F** for a detailed listing of department hardware assets, shown in our most recent annual equipment replacement plans. The current DNRP hardware inventory includes 1664 personal computers and 167 server systems. The second part of Section 7 provides an inventory of the department commercial software used on mainframe, servers, and desktop computers. At present, DNRP maintains 292 different commercial software packages. The final part of Section 7 provides an inventory of the custom developed software in use in the department. The custom applications listed are segmented by their area of use: Internet, Intranet, and Desktop. DNRP currently maintains 125 custom developed applications.

The organization charts at the beginning of Section 9 depict the IT staffing distribution within DNRP. At this time, the organization of IT staff within DNRP is federated because the department has chosen to locate IT support staff as closely as possible to the lines of business which they support. In alignment with the 2006-2008 Strategic Technology Plan, Objective 3.1, Reorganize Technology Functions, it is recognized that the organization of IT staff within DNRP will change. A new structure has not been determined at this time but clear direction has been communicated that there will be a single IT organization within DNRP. The details of a future DNRP IT organization will be the result of extensive dialog with both labor and the DNRP Management Team. This discussion will be necessary to determine the IT areas best suited to central department management, and the IT areas which are best addressed with matrix management in order to maintain the existing high levels of IT integration and support DNRP IT staff provides many department business units. In the longer term, a single DNRP IT organization will provide our IT professionals with more opportunity to interact with peers, provide more opportunity for staff backup, and provide a clearer path for staff advancement. Please refer to Appendix D for a complete list of IT positions and IT shadow staff within DNRP. This information is also linked to the budget tables located in Appendix E. The IT Budget is the summation of costs of the department IT costs for labor, capital, and operating expenses.

In addition to the budget information in Appendices D and E, there is also updated Total Cost of Operations (TCO) information in Appendix G. The TCO information provides a detailed breakdown of the types of IT support and services provided by DNRP IT staff and IT shadow staff (staff that are not IT-titled, but spend at least 10% of their time performing IT support activities).

The IT staffing and TCO information provided in this report is significantly different from the TCO report provided by PTI Consulting in 2003. In 2003, PTI made the decision to NOT calculate the majority of work done by GIS professionals as IT work and it was not included in the TCO report. We do not agree with that decision, so all work done by the County's GIS professionals is now fully reflected in the labor cost calculations and the TCO spreadsheets. Another factor driving change to IT staffing and TCO during the period since 2003 was the County IT Class/Comp project which in some cases reclassified people who were performing a large amount of IT shadow work to IT classifications. This resulted in an increase in the number of IT positions in the department. Annual COLA and merit pay awards also had some effect on overall IT labor costs.

The latter sections of this document address the department IT budget, IT performance measures, and a section describing the administration of this plan. The documented department IT labor budget is quite different than what was reported in the TCO report completed by PTI Consulting in 2003. The major dynamics involved in this change are the IT Class/Comp project, and the accounting of the department GIS staff as IT staff. In the 2003 report, PTI did not account for staff in GIS positions as IT staff. We do not agree with that assessment and have corrected the oversight in this report.

At this time the IT performance measures section is TBD. It is the preference of OIRM that all executive departments collect data on the same set of measures. Those measures are still under development at this time. Section 11 of this document will be updated once those measures are available.

There are several processes used by the IT Service Delivery Manager to administer the plan. These processes include:

- Plan Modification Process
- Problem Resolution Process
- Revision History Log
- Information Technology Services Delivery Agreement

Please refer to section 12 for details regarding any of these processes.

Section 1: Department Contact Information

Listed below are the names of individuals involved in preparing this plan.

IT Service Delivery Manager:
Contact Name: Gary Hocking
Division/Section: DNRP Director's Office
Job Title: IT Service Delivery Manager II
Telephone Number: 296-3791

DNRP IT Contributors:
Contact Name: Mel Boupharath
Division/Section: Parks Division
Job Title: Information Systems Manager I
Telephone Number: 263-6211

Contact Name: John Crum
Division/Section: Solid Waste Division
Job Title: Information Systems Manager I
Telephone Number: 296-0445

Contact Name: Sue DeLaat
Division/Section: Water & Land Resources Division
Job Title: Information Systems Manager I
Telephone Number: 296-8345

Contact Name: Pava Sivam
Division/Section: Water & Land Resources/Environmental Lab
Job Title: Information Systems Supervisor II
Telephone Number: 684-2360

Contact Name: John Buffo
Division/Section: Wastewater Treatment Division
Job Title: IT Manager I
Telephone Number: 684-1429

Contact Name: Ruoxi Zhang
Division/Section: Water & Land Resources Division
Job Title: IT Classification Pending
Telephone Number: 296-8393

Contact Name: George Horning
Division/Section: Director's Office/GIS Center
Job Title: GIS Center Manager, IT Enterprise Manager II
Telephone Number: 263-4801

Contact Name: Bob Swarner
Division/Section: WTD Comprehensive Planning & Technical Resources
Job Title: GIS Program Manager, Engineer VI
Telephone Number: 684-2072

Contact Name: Greg Babinski
Division/Section: Director's Office/GIS Center
Job Title: IT Project Manager II
Telephone Number: 263-3753

Contact Name: Greg Stought
Division/Section: Director's Office/GIS Center
Job Title: IT Supervisor I
Telephone Number: 263-4868

Contact Name: Dennis Higgins
Division/Section: Director's Office/GIS Center
Job Title: IT Supervisor II
Telephone Number: 263-4523

Contact Name: Chris Jansen
Division/Section: Director's Office/GIS Center
Job Title: IT Project Manager I
Telephone Number: 263-4866

DNRP Business Reviewers:

Contact Name: John Bodoia
Division/Section: Director's Office
Job Title: Chief Financial Officer
Telephone Number: 205-0943

Contact Name: Cynthia Hernandez
Division/Section: Director's Office
Job Title: Administrative Services Manager
Telephone Number: 263-6571

Contact Name:
Division/Section: Solid Waste Division
Job Title: Deputy Division Director
Telephone Number: 296-4459

Contact Name: Tom Koney
Division/Section: Parks Division
Job Title: Deputy Division Director
Telephone Number: 263-6229

Contact Name: Lorraine Patterson
Division/Section: Wastewater Treatment Division
Job Title: Deputy Division Director
Telephone Number: 263-6184

Contact Name: Joanna Richey
Division/Section: Water & Land Resources Division
Job Title: Deputy Division Director
Telephone Number: 296-8056

Section 2: Business Direction

The purpose of this section is to illustrate the alignment of DNRP IT resources with the department's overall business directions. DNRP is a large department with very diverse lines of business. The table below is a compilation of information from the six business plans developed by DNRP during the 2007 budget development process. During the 2008 budget development process, DNRP is restructuring its business plan to reflect an new four-goal structure. That change will be implemented in the 2009 IT service delivery plan.

Business Direction	Impacts on IT	Goals	Benefits to Public
Directors Office			
Policy Direction: • Provide for departmental accountability and compliance with County and departmental administrative policies and procedures (i.e. finance, procurement, HR, IT, public disclosure, etc); • Provide leadership and technical expertise for environmental policy initiatives that involve more than one division or department (i.e. global warming, energy); • Provide leadership and technical expertise on management issues, programs, or projects that require independent analysis, integration or problem-solving that may not be appropriate at the division level (i.e. water policy); • Provide services at the department level that are not available or could not be more effectively carried out by the divisions (i.e. public affairs, council	• O&M of department energy management system. • O&M of department performance measurement system. • O&M of the constituent relationship management system • Development and maintenance of department specific applications (call tracking, illegal dumping, Puget Sound Fresh, etc.) • Considerable staff time necessary to migrate Department websites to the Web Content Management System. • Increase and improve the delivery of more timely financial data.	**Leadership** Be a high performance regional environmental and resource management agency by providing high quality services, working in partnerships, and leading by example. **Environmental Quality** Achieve a net gain in environmental quality by protecting and restoring the natural environment, ensuring public health and safety, and exceeding environmental standards. **Waste to Resource** Regard the region's waste products as resources and minimize the amount of residual waste disposed. **Community Investment** Contribute to healthy communities by providing recreation, education, and sound land management. **Price of Service**	Efficiency Transparency Accountability Availability of better information for decision making

Business Direction	Impacts on IT	Goals	Benefits to Public
and intergovernmental relations, web development and application development); and • Provide services to the divisions that directly assist them in responding to countywide mandates and reporting requirements (i.e. performance measures, business planning, HR procedures, and administrative reports).		Price our services reasonably and competitively, while delivering the highest value to our citizens and maintaining safe and reliable systems. **Customer Satisfaction** Meet the needs of our customers through valued, high quality and responsive services. **Employee Involvement and Morale** Be a forward thinking workforce where employees are engaged in our business, involved in decisions that affect them, and understand their role in achieving the DNRP vision.	
GIS Center: *Please see Appendix H for detailed GIS O&M Information*			
Policy Direction: • Increasing the efficiencies of creation, storage, and retrieval of spatial data and increasing the effectiveness of GIS applications. • Providing a regional resource of spatial information and GIS expertise. • Increasing the ability of county agencies to meet their business needs through the use of GIS technology.	• A planned expenditure of $33,490 is for replacement of King Street Center training facility computers. • Expenditures of $147,820 are planned for replacement and acquisition of KCGIS Center technology equipment. Of this total, $86,496 is for purchase of new equipment to replicate critical systems mandated by the OIRM business continuity plan, and $42,930 will	• Increasing efficiencies and effectiveness of spatial data and GIS applications • Providing a valued regional resource of spatial information and GIS expertise • Increasing ability of county agencies to meet their business needs • Increasing ability of citizens to access useful information about King County	• Efficiency • Transparency • Accountability • Availability of better information for decision making

Business Direction	Impacts on IT	Goals	Benefits to Public
• Increasing the ability of citizens to access useful information about King County. **Core Businesses:** • **Enterprise Operations:** The purpose of King County GIS Center Enterprise Operations is to provide King County and the region with a central resource of reliable GIS technology and services that facilitate management, sharing, analysis, and display of spatial data. • **Matrix Staff Services:** The purpose of King County GIS Center Matrix Staff Services is to provide King County agencies and external customers with dedicated GIS expertise to facilitate data development, data maintenance, application development, cartographic production, and analytical support to meet agency specified business and project needs. • **Client Services:** The purpose of King County GIS Center Client Services is to provide a complete range of GIS services including consulting,	be spent to replace desktop PCs and other equipment that has reached the end of its normal lifecycle. The remaining $18,394 will be needed to pay annual operating costs for the newly acquired business continuity systems. • The KCGIS Center software budget will increase by $28,000 in 2007. This increase is directly attributable to a rise in software maintenance costs passed on by the county's primary GIS software vendor. • O&M of the computing and storage requirements necessary for the GIS Center staff to do their work. • Increase and improve the delivery of more timely financial data. •		

Business Direction	Impacts on IT	Goals	Benefits to Public
project management, spatial data development, spatial analysis, map and report production, application development, GIS data sales, and GIS training to King County agencies and external customers.			
Parks Division			
Policy Direction: • Stewardship of Regional Assets. The county places ***primary importance on continuing its role in the stewardship of regional parks assets***, including regional parks, regional recreation facilities, regional natural lands, and regional trails. • Limited Local Role. ***The county's local park and recreation role will be limited***, becoming increasingly narrowed on rural areas where there is no existing or anticipated alternative service provider. • Annexation. ***The county will work to transfer non regional urban park assets within the urban growth area*** to cities as annexations occur,	• The county will endeavor to transfer facilities located within urban unincorporated areas to cities or other local providers, using appropriate incentives and working in concert with county efforts to promote unincorporated area annexations. • The county will work to establish partnerships or promote alternative service providers, consistent with labor agreements. This is a full range of partnerships that include general volunteer efforts from the general public, to enhanced maintenance efforts by sports leagues, to corporate partnerships with the business community. . • New capital projects	• Customer satisfaction - Provide excellent programs and services that respond to existing and new customer needs and expectations. • Stable funding - Embrace a broad range of new ways of doing business focused on entrepreneurial approaches to ensure long-term stable funding. • Community Engagement - Work in cooperation with the community to increase recreational opportunities for the region. • Resource Management - Preserve, protect, manage, and enhance historical, cultural, and natural resources.	• Efficiency • Transparency • Accountability • Availability of better information for decision making

Business Direction	Impacts on IT	Goals	Benefits to Public
and where possible, prior to annexation. • Partnerships for Parks. ***The county will encourage and pursue partnerships*** that increase recreational activities in our park system without incurring additional costs. • Limited Strategic Acquisitions. ***The county's role in future acquisitions of regional and local park assets is consistent with our business model***. • Entrepreneurial Business Practices. Park operations are aligned to deliver regional parks services while utilizing ***entrepreneurial business practices***. **Core Businesses:** 1. Regional Parks, Pools, and Recreation; 2. Parks Facilities Maintenance; 3. Business Planning and Implementation ; and 4. Finance. Within these core businesses and sections, the division operates several programs. These include: • Resource and Ecological Lands • Regional Passive Parks	will increase operational efficiencies, provide regional benefits, or have an acceptable revenue stream. • The county will seek to maintain and operate facilities and programs in as efficient a manner as possible, using all means available including best management practices and technology. We are currently developing a long-range major maintenance reserve study for all of our facilities that includes individual facility assessments. • Replace a legacy business management application, tracking work orders, supplies inventory, etc. • Development of an e-commerce application to sell parking at Marymoor Park. • Increase and improve the delivery of more timely financial data.	• Infrastructure - Implement a comprehensive plan to maintain facilities and critical infrastructure. • Employee Development - Engage employees to participate in planning and outreach, provide adequate training, and award exceptional conduct.	

Business Direction	Impacts on IT	Goals	Benefits to Public
• Regional Trails • Local Parks Maintenance • Regional Parks and Facilities, such as: • Marymoor Park • Cougar Mountain • King County Aquatics Center • King County Fairgrounds • Regional, rural, and local recreation Programs, such as: • Field & Facility Scheduling • Aquatics, Water Safety and Fitness • Community Centers			
Solid Waste Division			
Key policy decisions/direction: • In accordance with the rate commitment made by the Executive in the division's *2004 Business Plan*, tipping fees will remain low and stable over time, while still supporting innovative waste reduction and recycling programs and environmentally sound transfer and disposal services. • Waste generated by King County residents and businesses will be exported to an out-of-county disposal facility when the Cedar Hills Regional Landfill closes. • The division will begin implementing	• Increase and improve the delivery of more timely financial data. • Ensure ongoing support for the weigh-scale, cashiering system and the continued capture of data for daily accounting. • Operation of security cameras and other devices for staff and customer safety. • Development of an automated time capture system for field staff. Interface of this system to the County payroll system. • Upgrade of existing fiber and copper LAN connectivity to allow full integration with VOIP • Replacement of existing LAN switch	**Environmental Quality** – Our physical facilities and those we contract for will be designed, constructed, and operated to meet or exceed environmental and public health regulations and to minimize impacts on communities nearby. **Waste to Resource** – We will implement programs that prioritize waste prevention and recycling choices over disposal, that will encourage behavior changes, and that will seek to make these changes a fundamental part of the economy. **Price of Service** – Our programs and policies will protect the public's financial interests and safeguard the county's assets as well as providing the resources necessary to achieve our mission and goals in a cost-effective manner. Our rates will	**Waste to Resource:** The **single family curbside recycling rate** has stayed constant or increased each year since 2002. **Environmental Quality:** The **percentage of groundwater leaving the Cedar Hills Landfill that complies with Federal Drinking Water Standards** has increased every year since 2003 (the first year data was reported for this measure). The **percentage of wastewater reports that meet National Pollution**

Business Direction	Impacts on IT	Goals	Benefits to Public
most elements of the preferred alternative recommended in the Transfer and Waste Export System Plan for the configuration of the regional solid waste transfer system. The transfer system projects that are consistent with the current adopted Comprehensive Solid Waste Management Plan (CSWMP). • A policy decision needs to be made about the timeframe for closing the Cedar Hills Regional Landfill. The two options for consideration are whether to 1) close the landfill when it reaches its currently permitted capacity, estimated to occur in late 2015, and begin waste export then, or 2) fully utilize available landfill capacity to extend the life of the landfill beyond 2015, thereby reducing costs to the ratepayers. **Core Businesses:** 1. Waste diversion – from disposal to reduction and recycling 2. Safe and environmentally sound transfer and disposal services	hardware to allow full integration with VOIP • Fleet GPS monitoring system to upgrade or replace existing deficient system.	continue to be among the lowest in the region and the ratepayers will receive increasingly efficient services and programs for their money. **Customer Satisfaction** – Our physical facilities and those we contract for will be designed, constructed, and operated to provide high standards of public services, to educate our customers about solid waste management practices and priorities, and to ensure employee and customer safety. **Employee Involvement & Morale** – We will respect and value the creativity, talents, skills, knowledge, and diversity that our fellow employees bring to the division. **Leadership** – We will provide visionary leadership in all aspects of solid waste management and will use collaborative planning processes to involve the public in the development and implementation of our programs and priorities.	**Discharge Elimination System (NPDES) criteria** has ranged between 90 percent and 100 percent since 2002. The **percent of single family households that subscribe to curbside garbage collection service** also contributes toward this goal. **Price of Service:** The **system-wide average transfer cost per ton of transfer** has fallen each year since 2003. The **actual tipping fee compared to forecast in 2001 Solid Waste Plan** has declined from 100 percent in 2004 to 93 percent in 2005 and the targets for 2006 and 2007 are both 93 percent. **Customer Satisfaction:** Customer satisfaction ratings for SWD have been very good. For the years that data were collected, the **customer satisfaction ratings for transfer stations and drop boxes** have been 4.5 on a

Business Direction	Impacts on IT	Goals	Benefits to Public
3. Ratepayer value through provision of efficient services 4. Environmental stewardship and green practices			5-point scale since 2002 (data is collected for this measure every two years). The **customer satisfaction ratings for Wastemobile services** have been 4.6 on a 5-point scale between 2002 and 2004 (no data was collected for 2005).
Water & Land Resources Division: *Please see Appendix I for additional details in the Web Operations & Coordination Plan*			
Policy Direction: King County's **flood management system** has been reviewed this year. The river levee system – its infrastructure – needs repair. Major repair to levees and revetments that prevent flooding in King County has not occurred since original construction over forty years ago. Estimates show that to do this approximately $179-335 million will be needed. King County is encouraging the annexation and incorporation of unincorporated areas within the Urban Growth Boundary. Projections estimate a **decrease in surface water revenue without an identical geographic-specific reduction in expenditures.** Other,	• New technology is needed to accommodate the computing and storage needs of very large computational models. • New approaches are needed to warehouse scientific data and provide better accessibility. • ITS support is needed for new Shoreline Management Plan Internet Application (SQL Server) • Continued O&M for specialized systems and interfaces to laboratory equipment at the Environmental Lab. • Management of data and interfaces with remote telemetry equipment (river gauges, lake buoys, etc.) • Support for multiple division IT needs with	**Environmental Quality** – Achieve a net gain in environmental quality by protecting and restoring the natural environment, ensuring public health and safety, and exceeding environmental standards. **Leadership** – Be a high performance regional environmental and resource management agency by providing high quality services, working in partnerships, and leading by example. **Price of Service** – Price our services reasonably and competitively, while delivering the highest value to our citizens and maintaining safe and reliable systems. **Customer Satisfaction** – Meet the needs of our customers through valued, high quality and responsive services. **Employee Involvement**	Efficiency Transparency Accountability Availability of better information for decision making Effective and efficient delivery of services to customers

Business Direction	Impacts on IT	Goals	Benefits to Public
programmatic costs that serve the entire service area – such as technical assistance, scientific support, administration, stewardship and Critical Area Ordinance compliance support, drainage regulatory development and compliance – are not as easily scaled to match each potential annexation area. Additional State Department of Ecology **storm water discharge permit requirements** are expected. This will place an additional burden on surface water revenues primarily towards pollution prevention, increased compliance and effectiveness monitoring and the improvement of water quality in surface water flows. Water and Land Resources seeks appropriate funding for and changes to its **dependence on wastewater treatment funds** for freshwater monitoring activities. King County **salaries, benefits and overhead costs** are rising faster than the rate of inflation. The division's revenues cannot match expenditures, despite $4 million in reductions in direct program expenses over the past two years. **Use performance**	limited staff resources. • Coordination of DNRP migration to WCMS. • Up-to-date, integrated IT needed for effective communications, decision-making, and customer/regional services • Multi-lingual web-based information • Website management and updates	**and Morale** – Be a forward thinking workforce where employees are engaged in our business, involved in decisions that affect them and understand their role in achieving the Water and Land and Department of Natural Resources and Parks vision.	

Business Direction	Impacts on IT	Goals	Benefits to Public
measurement data to focus budget allocations. After conducting a performance based analysis, the division is evaluating the effectiveness of its services. To maintain program efficacy, the King County's Noxious Weeds Board is recommending a **45 cent increase to King County's Noxious Weeds Fee**. The increase will barely compensate for inflation over the next five years. **Water Resource Inventory Area (WRIA) salmon recovery plans** are approved and ready for implementation. To complete the three plans, estimates suggest that approximately $460 million will be needed. **King Conservation District assessment** expires this year. Rate of renewal and how the assessment that is raised countywide is distributed are currently under consideration. State Department of Ecology requires King County to update its **Shoreline Master Program**. Costs to perform this work are primarily being paid by grant funds. **Core Businesses:** • Stormwater Services • Rural & Resource Programs			

Business Direction	Impacts on IT	Goals	Benefits to Public
• Environmental Lab • Science & Monitoring • Capital Improvement Projects • Regional Services Attempting to broaden support/funding for routing surface water monitoring to augment the wastewater and surface water mgmt fee sources used for monitoring.			
Wastewater Treatment Division:			
Policy Direction: • Protect human health and the environment by managing the region's wastewater; • Fulfill the contractual commitments to its local agency customers; • Promote environmental stewardship; • Regard the region's waste products, such as wastewater, methane gas and biosolids, as resources and minimize residual waste disposed. • Reflect a wise use of public funds. **CORE BUSINESSES** **Priority 1: Transport, treat and discharge**: operating and maintaining King County's sewage treatment plants and collection systems	• Standardization of technology at plants and off-site locations. • IT requirements of the new Brightwater Treatment Plant and conveyance system. • IT support and coordination with division CIP programs • Replacement of the treatment plants process control historian systems (detailed and summary data collected within the plants and from the plant conveyance systems). The new systems (OSIsoft PI System) will be made available on the treatment plant LANs and on the WTD business LAN. Good progress has been made during 2006, and the	• **Environmental Quality** – We will construct, operate and maintain our facilities in a manner that maintains high quality effluent and biosolids with no permit violations, un-permitted overflows or bypasses. We will monitor our effluent and biosolids to ensure environmental quality remains high; • **Waste to Resource** – To recycle wastewater by-products safely by capturing methane, recycling biosolids, reusing effluent, and evaluating new technologies for treatment and recovery; • **Price of Service** – To maintain a competitive cost of services with	

Business Direction	Impacts on IT	Goals	Benefits to Public
including support functions and regulatory compliance. Regional service mandated by regulation and contracts. **Priority 2: Add capacity for growth**: planning, designing, and constructing new treatment plants and conveyance systems to ensure capacity for growth (such as Brightwater). Regional service mandated by regulation and contracts. **Priority 3: Water quality enhancement**: activities that support core businesses of transporting, treating, recycling, and discharging wastewater and adding capacity for growth, including water quality monitoring, water supply planning, planning for the Endangered Species Act, planning for Washington State Water Resource Inventory Areas (WRIA) , applied wastewater technologies, and discretionary funding. Primarily transfer funds to Water and Land Resources. Not mandated, but supports & streamlines provision of mandated regional services. **WTD IT Priorities:** The basic function of the WTD/ISS Section is to provide an efficient, high quality and cost effective, information systems	systems should be in full production by mid 2007. • Upgrade of West Point Laboratory Information Management System (LIMS), and replacement of Plant's Information Management System (performance monitoring, regulatory reporting, plant management information). The new system is based on a new WTD LIMS standard (LabVantage Sapphire, OPS 32, and OSIsoft PI), and is in full production is operational at both treatment plants as of late 2006. • Installation of a LIMS System and replacement of the Plant's Information Management system (LARS) at the Renton Treatment Plant with the WTD LIMS standard (LabVantage Sapphire, OPS 32, and OSIsoft PI). At Renton, these systems will be in full production early this year, 2007. • Select, purchase, and implement a new Asset Management System (AMMS) – this project includes establishing	ongoing efficiency gains through the Productivity Initiative; • **Customer Satisfaction** – To be responsive to our customers and to deliver services in a way that our customers truly value; • **Employee Involvement** – To involve employees in all areas of our operation so employees feel they are doing productive work and are rewarded and recognized; and • **Organization** – To continue to provide regional leadership in the area of environmental stewardship by creating an organization that fosters integration of resources and services throughout King County government and other environmental agencies.	

Business Direction	Impacts on IT	Goals	Benefits to Public
environment in WTD. In 2002 a Computer System Master Plan was initiated in WTD (Ref. Wastewater Treatment Division Computer Systems Planning Study Final Report, Sept 2002, Westin Project Number 6251, WTD program 423493). The WTD Information Systems Service Section is committed to the service and support of the adopted plan and the resulting implementation programs. The results proposed both short and long range (2, 5 and 10 years) programs and projects that include upgrading and adding new computer systems and IT technology that would lower cost and increase the level of operating efficiency across the division. A number of the recommended projects are now complete and/or under way, and during 2007 WTD IT staff will continue to assist and provide service and support as needed. These projects involve review and changes in business practices, and the selection, replacement, purchase, and implementation of WTD computer systems (hardware/software), as well as upgrades to some existing systems.	new business practices at the plants in Asset Management, a more in-depth utilization of the legacy Computerized Maintenance Management System (CMMS - Mainsaver), and will include a new WTD standard analysis and reporting system (BI-CYCLE) that will provide trends, reports, and information from CMMS, Facilities databases, and OSIsoft PI process historian databases. Work will continue on this project through 2007 and continue into 2008 and 2009, with CMMS replacement planning to start in late 2008. • Water Quality Database – needs assessment and design project. This project, jointly operated with WLRD, is investigating common uses of environmental and wastewater process data across and between WTD, WLRD, and the Environmental Labs. Efforts will be focused on improving data management, collection, storage (common databases), ownership, and accessibility. In 2007, the project is expected to move from		

Business Direction	Impacts on IT	Goals	Benefits to Public
	assessment into pre-design and design of recommended best practices and with the option for improved, standard data systems. • Control System Standards: Continued development and implementation of control system replacement at Renton, South Treatment Plant. Initiation and pilot of new Supervisory Process Control System technology (SPCS). The WTD Control System Standards will be refined and extended during the first implementation at South Treatment Plant, along with test sites at Westpoint and Brightwater in 2007/2008. Critical program and Operator graphic templates will be developed which will be subsequently leveraged at control projects at each site through 2010. Subsequent re-use of these templates and designs will save project costs, reduce risk, and enable common O&M knowledge, care and use of our critical control systems across WTD. The common Regional-Supervisory Process Control System		

Business Direction	Impacts on IT	Goals	Benefits to Public
	will support regional flow management, extensive control automation strategies, enterprise-view asset and maintenance management, and allow for both standard and emergency remote control from any process network location. • Control System Standards (and Network Improvements): In support of the planned Regional-Supervisory Process Control System, a sub-project for in-filling of existing gaps in fiber-optic network service between existing County systems and the Brightwater site will be initiated. The R-SPCS will enable the tying together of process and conveyance control and data across the Division, as well as supporting remote monitoring and control of Brightwater. Testing will commence with a pilot connection between Renton and Brightwater project site in early 2008. • CSO Predictive Control Model: After a delay (and some effective planning) in 2006, 2007 marks the official		

Business Direction	Impacts on IT	Goals	Benefits to Public
	start of this project designed to layer predictive control technologies upon the new WTD Control System Standard SPCS systems. This project will involve WTD Planning and Compliance, as well as the Control System Standards team. • During 2007 no major new IT Business Projects are planned. There will be an influx of new staff, TLTs, and contractors in support of the Brightwater Treatment Plant and Conveyance System construction work, as well as several new Capital Improvement Project (CIP) Sites that will open during 2007.		

IT Plans

The purpose of this subsection is to describe the strategic drivers behind the DNRP IT initiatives, list the plans for significant IT work in 2007, and potential IT initiatives in the 2008-2009 timeframe. The categories of IT management focus will be:

- The operations management of all production systems and infrastructure
- The support of approved capital projects
- Support for the Executive's IT reorganization goals and timelines

The strategic elements which make up the high level IT direction for DNRP are:

- A reorganization of DNRP IT staff to form a single IT division within the department which reports to the IT Service Delivery Manager. This will bring DNRP into alignment with King County Strategic Objective 3.1
- Implementation of a departmental set of IT performance measures, to align with Strategic Objectives 1.3 and 1.4
- Additional implementation of thin clients as desktop PC replacements, to align with Strategic Objective 1.9
- Implementation of e-commerce initiatives in Parks and WTD, to align with Strategic Objective 2.1

- Standardization of the desktop pc and notebook pc models used in DNRP, to align with Stragegic Objective 1.7
- Completion of the enterprise ePO rollout, and refining the use of Foundstone scanning, to align with Strategic Objective 4.1
- An initiative for server consolidation using storage area networking, and potentially server virtualization in order to reduce the number of servers management by department IT staff.
- Web site structural redesign, content inventory, application and content management migration planning and management.
- Migration of the department static web pages to the County web content management system (WCMS). The DNRP web pages which are dynamic, or application driven are currently not compatible with WCMS.

The significant information technology work programmed for the 2007 budget year, or to be requested as 2007 supplemental budget requests are:

All Divisions:

- Ongoing equipment replacement as delineated in equipment replacement plans approved by the Project Review Board.
- Ongoing impact assessment and repair in response to web site migrations; coordination of changes with external web managers
- Installation/update of current web related software on all systems (i.e., current browsers with operating system updates, plug-ins for Acrobat, Flash, Real Player, Windows Media Player, etc.)

Parks Division:

- Request for supplemental budget authority to implement an e-commerce solution which will make their Class system for booking fields and facilities available on the Internet.
- Parks staff will begin an internal process to determine the requirements and alternatives for replacing their R:Base business application

Solid Waste Division:

- First phase of in initiative to develop a business intelligence capability by warehousing data from division transaction processing systems.

Wastewater Treatment Division:

- Ongoing work on the Wastewater Treatment Division Asset Maintenance & Management System Project.
- Wastewater Treatment Division will work with OIRM and Finance staff to implement an e-commerce solution to enable payment of the Wastewater capacity charge over the Internet.
- Migrate to the WCMS, mitigate and repair impacts to division web site.

Water & Land Resources Division:

- Completion of the phase I and II work assessing the need and completing a Technology Qualifications Report for the Water & Land Resources Division Water Quality Data Store Project. This work will inform a go/no-go decision by the division to proceed with the implementation portion of the project
- Ongoing support and development of LIMS and other systems and device interfaces specific to the Environmental Laboratory
- Science section application development: environmental monitoring, data modeling, water quality complaint tracking, regional data sharing/management
- Upgrade the department web application servers, supporting Internet Information Server 6.0 and .Net version 2.0

- Incremental migration of web applications to upgraded server hardware, mitigation and repair of migration impacts to the web sites.

GIS Center:

- Acquisition and installation of backup systems to be located at the Alternate Data Center. Configuration of asynchronous data replication between production and backup systems.
- A collaborative Cadastral Data Maintenance Feasibility Study
- GIS Training Curriculum Development
- GIS Application Development Coordination and Facilitation
- An ArcGIS Server Application for Address Data Maintenance and Distribution
- Census Data Analysis Tools Assessment
- An ArcGIS Server Application for the Mitigation Reserves Program
- King County Web Mapping Services Compendium
- The refinement of authoritative data for street centerlines, city boundaries, points-of-interest and property address
- Cadastral Accuracy Improvements
- First Annual Aerial Imagery Acquisition Plan
- Parcels with Onsite Septic Systems Data Development
- Migration to the WCMS, mitigation and repair of impacts.

Information technology work plans for 2008 and future years are not yet well developed and are not prioritized. At this point in time, the potential work that is known includes:

All Divisions:

- Ongoing equipment replacement (with the new inclusion of thin client desktop PC replacements) as approved by the Project Review Board
- Request negotiation to continue the use of the dnr.metrokc.gov sub-domain with the new owner in order to redirect traffic to the new domain names/servers after King County makes its domain name change.
- Investigate the feasibility of using the OIRM, active directory integrated Sharepoint server to provide discussions boards, on-line surveys, knowledgebase and file libraries to department staff.
- Investigate PDA support for web development, emergency services and remote data access for field staff, and determine the security vulnerabilities inherent to this technology.

Parks Division:

- Possible completion of the Parks e-commerce application noted above during the 2008 time frame
- Replacement of the Parks Division business application, currently an R:Base application (may be a commercial product or a custom development)
- Continued work with OIRM to develop improved wireless (KCPAN) reporting capabilities at all Parks sites where KCPAN is available
- Propose the use of thin clients as replacements for desktop computers, with pilot testing at maintenance facilities.
- Work with Solid Waste Division staff to expand their implementation of Track-It to Parks
- Add the Tolt-McDonald Park site to the KC WAN

Solid Waste Division:

- Upgrade of the Cedar Hills site building and LAN infrastructure
- Expanded use of the enterprise Track-IT implementation to cover Water & Land Resources and Parks Divisions
- Expand the use of thin clients within the division, including usage to collect field worker time at remote locations

- Complete the implementation of Availl software for disaster recovery/data replication
- Expansion of the business intelligence capability developed in 2007 by addition of data from GPS, equipment and facilities programs, and environmental monitoring applications.

Wastewater Treatment Division:

- Connection of the new Wastewater Treatment Division Brightwater site to the King County WAN via i-Net
- Continued work on the Asset Maintenance & Management System Project

Water & Land Resources Division:

- Migration of over 2000 web pages to the County web content management system and the support/management of the page re-directing necessary for citizens and businesses to continue to easily find department web pages.
- Ongoing support for systems hosting DNRP web applications
- Ongoing support and development of LIMS and other systems and device interfaces specific to the Environmental Laboratory
- Ongoing work by the Science Section to develop applications necessary to their line of business and data management needs.
- Complete the migration to WCMS, mitigate and repair impacts.

GIS Center:

- Continued development of authoritative data layers
- Implementation of an enterprise address verification and maintenance tool
- Continued efforts toward incremental accuracy improvement of cadastral data
- Second annual imagery acquisition plan.

Section 3: Department IT Functions

This section details the IT functions performed by department IT staff and department non-IT classified staff. Department IT functions are grouped into 5 major areas categories:

- **Customer Services** – functions related to directly supporting users of IT systems and services.
- **System Services** – Functions related to implementing, maintaining, and supporting the organization's computers, software, and connectivity.
- **Business Applications Services** - functions related to developing, installing, configuring, and otherwise maintaining the software needed to meet the operational, management, and reporting requirements of the organization.
- **IT Planning** – Those functions related to planning for the technology function at the organization.
- **IT Administration** - Those functions related to the oversight and administration of the technology function at the organization.

Appendix A provides a more detailed description of these 5 Functional categories as well as an example of typical IT functions that could be provided by central or department IT staff now and in the future.

The tables below are a summarization the IT functions performed by DNRP staff. They are a rollup of the Total Cost of Operations (TCO) spreadsheets recently updated by department staff. Please see the updated Total Cost of Operations (TCO) spreadsheets located in **Appendix G** for a detailed breakdown of functions.

The Solid Waste Division Cashiering System Standby & Call-Out Procedures defines the service level division IT provides to that critical business function. The full text of the procedure can be found in **Appendix J**.

DNRP IT Staff Functional Distribution	Director's Office	GIS Center	Parks Division	Solid Waste Division	Water & Land Resources Division **4 FTE Matrixed from GIS Center	Wastewater Treatment Division **3.3 FTE Matrixed From GIS Center	FTE TOTAL
Customer Services							
Help Desk (Tier 1)	0.00	0.20	0.00	0.00	0.48	0.00	0.68
GIS end user support	0.00	0.86	0.00	0.00	0.26	0.15	1.12
Tier 2 support:							
Desktop PC support	0.00	0.10	0.05	0.40	1.00	4.80	1.55
PDA support	0.00	0.00	0.00	0.00	0.02	0.00	0.02
Other portable/specialized device support	0.00	0.00	0.00	0.10	0.20	0.00	0.30
Personal productivity tool support	0.00	0.00	0.00	0.00	0.02	0.00	0.02
Business application support	0.00	0.00	0.05	0.30	1.38	1.20	1.73
Training	0.00	0.94	0.00	0.00	0.35	0.00	1.29

System Services							
Network connectivity (WAN/LAN/wireless)	0.00	0.10	0.10	0.10	0.37	1.60	0.67
Workstation administration	0.05	0.05	0.00	0.65	0.10	0.00	0.85
Server administration:							
Email administration	0.00	0.00	0.00	0.00	0.00	0.00	0.00
File/print administration	0.00	0.10	0.05	0.00	0.47	1.00	0.62
GIS server administration	0.05	0.70	0.00	0.00	0.01	0.00	0.76
Application server administration	0.00	0.00	0.00	0.45	0.25	0.35	0.70
Other server administration	0.00	0.00	0.00	0.60	0.61	0.10	1.21
Mainframe operations & administration	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Data center operations	0.05	0.10	0.00	0.00	0.13	0.00	0.28
Database administration	0.00	1.10	0.00	0.75	0.78	1.05	2.63
Security administration	0.00	0.05	0.10	0.10	0.60	0.50	0.85
Telephone systems support	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Business Application Services							
Application development:							
Website design/maintenance	1.00	0.50	0.05	0.90	2.70	0.10	5.15
Desktop application development/maintenance	0.00	0.00	0.00	0.50	1.34	0.00	1.84
GIS Data/Image Analysis	0.00	3.85	0.00	0.00	1.75	1.35	5.60
GIS Data Development & Maintenance	0.00	4.25	0.00	0.00	0.80	1.00	5.05
GIS application development/maintenance	0.00	2.05	0.00	0.00	0.00	0.30	2.05
All other development	0.30	0.00	0.00	0.15	1.47	0.00	1.92
Requirements analysis	0.40	0.43	0.00	0.20	0.99	0.05	2.02
Data administration	0.10	0.00	0.10	0.30	0.20	0.00	0.70
Application administration	0.10	0.00	0.00	0.25	0.00	0.00	0.35
Custom application maintenance:							
ARMS	0.00	0.00	0.00	0.00	0.02	0.00	0.02
IBIS	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EssBase	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other finance	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other HR	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other payroll	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other budget	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRS	0.00	0.10	0.00	0.05	0.33	0.00	0.48
Agency app 2	0.00	0.00	0.00	0.00	1.25	0.00	1.25
All other	0.00	0.00	0.00	0.00	1.05	0.00	1.05
Package application maintenance:							
PeopleSoft	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MSA	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fixed Asset	0.00	0.00	0.00	0.15	0.00	0.00	0.15
Other finance	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other HR	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other payroll	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other budget	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Agency app 1	0.00	0.00	0.10	0.30	0.03	0.00	0.43
Agency app 2	0.00	0.00	0.00	1.70	0.02	0.00	1.72
All other	0.00	0.00	0.00	0.40	0.00	0.00	0.40
IT Planning							
Strategic planning & governance	0.35	0.47	0.00	0.05	0.68	0.00	1.55

Dept/Div Web Coordination	0.00	0.03	0.00	0.00	0.40	0.00	0.43
Research and development	0.10	0.65	0.00	0.00	0.95	0.05	1.70
Disaster recovery/planning	0.00	0.02	0.10	0.05	0.05	0.40	0.22
IT Administration							
Asset management	0.00	0.15	0.10	0.15	0.39	0.15	0.79
IT procurement	0.00	0.05	0.00	0.10	0.19	0.15	0.34
Work program project management	0.00	0.95	0.00	0.00	0.35	0.30	1.30
Project management	0.10	1.55	0.00	0.25	0.97	0.35	2.87
Standards and policies development	0.10	0.30	0.00	0.00	0.29	0.05	0.69
Administrative support	0.00	0.00	0.10	0.05	0.55	0.20	0.70
Departmental management	0.30	2.05	0.10	0.00	1.32	0.10	3.77
FTE Sum	3.00	21.70	1.00	9.00	25.10	15.30	75.10

Shadow Staff: departmental staff with non-IT job titles who spend at least 10% of their time performing one or more IT functions	Parks Division	Solid Waste Division	Water & Land Resources Division	Wastewater Treatment Division	FTE TOTAL
Customer Services					
Help Desk (Tier 1)	0.00	0.00	0.00	0.00	0.00
GIS end user support	0.00	0.00	0.00	0.00	0.00
Tier 2 support:					
Desktop PC support	0.00	0.04	0.00	0.31	0.35
PDA support	0.00	0.00	0.00	0.00	0.00
Other portable/specialized device support	0.00	0.00	0.00	0.00	0.00
Personal productivity tool support	0.00	0.00	0.00	0.05	0.05
Business application support	0.00	0.02	0.00	0.12	0.14
Training	0.00	0.00	0.00	0.06	0.06
System Services					
Network connectivity (WAN/LAN/wireless)	0.00	0.00	0.00	0.42	0.42
Workstation administration	0.00	0.00	0.00	0.06	0.06
Server administration:					
Email administration	0.00	0.00	0.00	0.00	0.00
File/print administration	0.00	0.00	0.00	0.30	0.30
GIS server administration	0.00	0.00	0.00	0.00	0.00
Application server administration	0.00	0.00	0.00	0.25	0.25
Other server administration	0.00	0.00	0.00	0.10	0.10
Mainframe operations & administration	0.00	0.00	0.00	0.00	0.00
Data center operations	0.00	0.00	0.00	0.00	0.00
Database administration	0.00	0.00	0.00	0.24	0.24
Security administration	0.00	0.00	0.00	0.06	0.06
Telephone systems support	0.00	0.00	0.00	0.02	0.02
Business Application Services					
Application development:					
Website design/maintenance	1.00	0.50	0.00	0.70	2.20
Desktop application development/maintenance	0.00	0.00	0.00	0.00	0.00
GIS Data/Image Analysis	0.00	0.00	0.00	0.00	0.00

GIS Data Development & Maintenance	0.00	0.00	0.00	0.00	0.00
GIS application development/maintenance	0.00	0.00	0.00	0.10	0.10
All other development	0.00	0.02	0.00	0.00	0.02
Intergrated(GIS/Web/VC) IT functions	0.00	0.00	1.00	0.00	1.00
Requirements analysis	0.00	0.01	0.00	0.00	0.01
Data administration	0.00	0.20	0.00	0.00	0.20
Application administration	0.00	0.10	0.00	0.00	0.10
Custom application maintenance:					
ARMS	0.00	0.00	0.00	0.00	0.00
IBIS	0.00	0.00	0.00	0.00	0.00
EssBase	0.00	0.00	0.00	0.00	0.00
Other finance	0.00	0.00	0.00	0.00	0.00
Other HR	0.00	0.01	0.00	0.00	0.01
Other payroll	0.00	0.00	0.00	0.00	0.00
Other budget	0.00	0.00	0.00	0.00	0.00
Agency app 1	0.00	0.00	0.00	0.00	0.00
Agency app 2	0.00	0.00	0.00	0.00	0.00
All other	0.00	0.00	0.00	0.00	0.00
Package application maintenance:					
PeopleSoft	0.00	0.00	0.00	0.00	0.00
MSA	0.00	0.00	0.00	0.00	0.00
Fixed Asset	0.00	0.00	0.00	0.00	0.00
Other finance	0.00	0.00	0.00	0.00	0.00
Other HR	0.00	0.00	0.00	0.00	0.00
Other payroll	0.00	0.00	0.00	0.00	0.00
Other budget	0.00	0.00	0.00	0.00	0.00
Agency app 1	0.00	0.00	0.00	0.00	0.00
Agency app 2	0.00	0.02	0.00	0.00	0.02
All other	0.00	0.04	0.00	0.00	0.04
IT Planning					
Strategic planning & governance	0.00	0.00	0.20	0.00	0.20
Dept/Div Web Coordination	0.00	0.00	0.00	0.00	0.00
Research and development	0.00	0.00	0.00	0.22	0.22
Disaster recovery/planning	0.00	0.00	0.00	0.25	0.25
IT Administration					
Asset management	0.00	0.00	0.05	0.00	0.05
IT procurement	0.00	0.00	0.05	0.13	0.18
Work program project management	0.00	0.00	0.00	0.00	0.00
Project management	0.00	0.00	0.30	0.05	0.35
Standards and policies development	0.00	0.00	0.05	0.00	0.05
Administrative support	0.00	0.00	0.00	0.02	0.02
Departmental management	0.00	0.00	0.10	0.00	0.10
FTE Sum	1.00	0.96	1.75	3.46	7.17

Section 4: Central IT Functions

This section provides a generalized list of IT functions that DNRP receives from central IT. At this time, no Service Level Agreements (SLA's) for exist for Central IT functions received by the department. The 2007-2008 timeframe will be a period of increased activity regarding the development of SLA's covering the services the department receives from central IT. Relative to mission-critical regional-network (fiber-optic service) support, WTD will need to create a SLA with Central IT (and commercial service, i.e. Comcast) supporting a high-degree of uptime and emergency support (to be specified). This need will become critical within the treatment plants beginning late 2007 as new fiber-optic process network is installed at South Plant, to be followed in 2008 - 2010 by Westpoint and Brightwater, and with regional connections (plant to plant) becoming critical as early as 2008.

Please see **Appendix A** as a reference for typical Central IT functions.

Central IT Enterprise Functions
The following is a list of the standard functions received by all departments from central IT.

- Network
- Internet
- Telephones and voicemail
- Email and calendaring
- Active directory, including Domain controllers, DNS Services, Terminal Services, and Root controllers (Child Domain PDC/BDC provided by department IT staff).
- Blackberry Server
- Enterprise helpdesk
- Enterprise applications
- Enterprise data center & operations
- Enterprise software licensing
- Enterprise security & privacy
- Strategic planning
- Technology governance
- Countywide IT contracts
- Enterprise projects
- Enterprise IT training

Central IT Optional Enterprise Functions
The following is a list of the optional enterprise functions received by DNRP from central IT.

- Radio infrastructure

Central IT Custom Services
The following is a list of the custom functions that DNRP contracts from central IT.

Service	Parks	Solid Waste	Wastewater Treatment	Water & Land Res	WLR Environmental Lab	Director's Office	GIS Center
Applications	no	Yes	no	no	no	no	no
Server Hosting	no	no	yes	no	no	no	yes
Server Suport	no	no	no	no	no	no	no
Data	no	no	no	no	no	no	no

Service	Parks	Solid Waste	Wastewater Treatment	Water & Land Res	WLR Environmental Lab	Director's Office	GIS Center
Backup							
Database Administration	no	no	no	no	no	no	no
LAN/Desktop Support	no	no	no	no	no	no	no
Printing & Copying	As needed	As needed	As needed	As needed	no	As needed	As needed
Graphic Design	no	no	no	no	no	no	no
Video & Photography	no	no	no	no	no	As needed	no
Radio Maintenance & Support	yes	yes	yes	yes	yes	yes	yes

IT Functions from other Departments

- PeopleSoft payroll
- MSA Payroll (including POL Payroll)
- ARMS Financials
- IBIS Financials
- IVIS – KC Fixed Assets Tracking System

Section 5: External Support & Services Contracts

This section provides a list of IT support and service contracts that DNRP maintains with governmental agencies and private companies for IT services such as applications, hardware, network, and other IT services. At this time DNRP maintains 50 agreements for such support and services. These service contracts will be used when developing service expectations.

GIS Center

Contract #/PO	Contract Owner	Service Provider	Function Category	Service Description	Contract Start Date	Contract End Date	$ Value of the Contract Term
95055607D	ITS	HP	Maintenance & Support	Hardware Support for Compaq ES/40	Jan 05	Jan 06	
	GIS Center	ADIC	Maintenance & Support	Hardware support for ADIC Scalar 100 tape library			
298349	GIS Center	ESRI	Maintenance & Support	Master Purchase Agreement for GIS software purchases, support, and maintenance	Dec 06 (est)	Dec 11 (est)	$750,000 (est)
	ITS	Microsoft	Maintenance & support	Enterprise Agreement	Jan 06	Dec 08	
	ITS	Oracle	Maintenance & Support	King County – Oracle maintenance agreement	Jan 06	Dec 06	

Directors Office

CONTRACT #	CONTRACT OWNER	SERVICE PROVIDER	FUNCTION CATEGORY	SERVICE DESCRIPTION	START DATE	END DATE	$ VALUE OF THE CONTRACT TERM
	DNRP Director's Office	Ultrabac	Maintenance & support	Software maintenance & support – backup application	Feb 06	Feb 07	
	ITS	Microsoft	Maintenance & support	Microsoft enterprise agreement	Jan 06	Dec 08	
	DNRP Director's Office	PerformanceSoft	Maintenance & Support	PBViews software maintenance & support	Oct 06	Oct 07	
	OIRM	McAfee	Maintenance & support	Software maintenance & support: Anti-virus, HIPS			
	DNRP Director's Office	Numara	Maintenance & Support	Track-IT Standard Professional licensing for auditing 100 desktops			
	DNRP Director's Office	Acronis	Mainentance	Software maintenance for disk imaging licensing			

Parks Division

CONTRACT #	CONTRACT OWNER	SERVICE PROVIDER	FUNCTION CATEGORY	SERVICE DESCRIPTION	START DATE	END DATE	$ VALUE OF THE CONTRACT TERM
	ITS	Microsoft	Maintenance & support	Microsoft enterprise agreement	Jan 06	Dec 08	
	Parks	Class Software Solutions LTD	Maintenance & support	Class Registration; user fee revenue tracking	Jul 06	July 07	$13K
	OIRM	McAfee	Maintenance & support	Software maintenance & support: Anti-virus, HIPS			

Solid Waste Division

CONTRACT #	CONTRACT OWNER	SERVICE PROVIDER	FUNCTION CATEGORY	SERVICE DESCRIPTION	START DATE	END DATE	$ VALUE OF THE CONTRACT TERM
	Solid Waste Division	Symantec	Maintenance & support	Software maintenance & support – backup application	Sept 06	Sept 07	
	Solid Waste Division	SurfControl	Maintenance & support	Software maintenance & support – Internet access monitoring application	Feb 06	Feb 07	
	Solid Waste Division	CCG Faster I	Software maintenance & support –	Software maintenance & support – Operations Equipment Maintenance application	Apl 06	Apl 07	
	Solid Waste Division	CCG Faster Inc.	Software maintenance & support –	Software maintenance & support – Operations Waste Water Maintenance application	Junel 06	June 07	
	Solid Waste Division	Numara Inc.	Software maintenance & support	Software maintenance & support HelpDesk & Asset Mgmt application	Aug 06	Aug 07	
	Solid Waste Division	Paradigm Inc.	Software maintenance & support	Software maintenance & support Compu-Weigh & Weigh-Scale application	Jan 06	Dec 07	
	Solid Waste Division	Numara Inc.	Software maintenance & support	Software maintenance & support Network Monitor application	May 06	May 07	

CONTRACT #	CONTRACT OWNER	SERVICE PROVIDER	FUNCTION CATEGORY	SERVICE DESCRIPTION	START DATE	END DATE	$ VALUE OF THE CONTRACT TERM
	Solid Waste Division	IRD Inc.	Software maintenance & support	Software maintenance & support Fleet GPS application	Jan 06	Jan 07	
		EarthSoft Inc.	Software maintenance & support	Software maintenance & support Environmental Monitoring & Reporting application	July 06	July 06	
	Solid Waste Division	Journyx Inc.	Software maintenance & support	Software maintenance & support Electronic timesheet & attendance application	Mar 06	Mar 07	

Wastewater Treatment Division

CONTRACT #	CONTRACT OWNER	SERVICE PROVIDER	FUNCTION CATEGORY	SERVICE DESCRIPTION	START DATE	END DATE	$ VALUE OF THE CONTRACT TERM
324360	WTD-ISS	MainSaver	Maintenance & Support	Software Support	4/06	4/11	$225,000
T01907T	WTD-ISS	Ciber, Inc.	Maintenance	DBA	11/03	12/06	$120,000
	WTD-CIP	Autodesk Constructware	Internet Service Provider	Collaborative project and contgraact management system	7/12/04	12/31/06	$202,500
PO# 296468	WTD-CIP	Autodesk Constructware	Internet Service Provide	Support & Training	3/7/05	12/31/06	$205,000
Contract with KC IT	WTD-CIP – 3 sites	Junko Keesecker	Service	Video Conferencing			$460.00 per mo/per site
Software Lic. Contract #1013197	WTD, Asset Management to be transferred to WTD Operations	OSI Software Inc.	Application Software	Support of client, server, and web services – Upgrades and Support	12/29/04	Renewed annually on or before April 11	$60,000.00 Annually
Software Lic. Contract #233621	WTD, Asset Management to be transferred to WTD Operations	LabVantage	Application Software (laboratory Information Management System – LIMS)	Support of client and server – upgrades and support	6/27/03		$20,620.00Annually
Software Lic. Contract	WTD, Asset Management to be transferred to	OPS Software	Plant Management Reporting System	Support of client, server, and web services software – Upgrades and support			New – TBD Annual

CONTRACT #	CONTRACT OWNER	SERVICE PROVIDER	FUNCTION CATEGORY	SERVICE DESCRIPTION	START DATE	END DATE	$ VALUE OF THE CONTRACT TERM
	WTD Operations						
In process	WTD, Asset Management	BI-Cycle	Application Software – Support of	Support of client, server, and web services – upgrades and support	Est – 11/06	Options for 5 year extension	New – TBD Annual est $10,000

Water & Land Resources Division

CONTRACT #	CONTRACT OWNER	SERVICE PROVIDER	FUNCTION CATEGORY	SERVICE DESCRIPTION	START DATE	END DATE	$ VALUE OF THE CONTRACT TERM
	ITS	Microsoft	Maintenance & Support	Microsoft Enterprise Agreement	Jan 06	Dec 08	$47K for 2006
	GIS Center	ESRI	Maintenance & Support	ArcGIS license maintenance	Oct 07	Oct 08	$10K for 2006
	OIRM	McAfee	Maintenance & Support	Software maintenance & support: Anti-virus, HIPS			
	WLRD	AutoDesk	Maintenance & Support	Software maintenance & support – autoCADD desktop application			
	WLRD	SPSS	Maintenance & Support	Software maintenance & support –statistical desktop application			
	WLRD	PNNL	Maintenance	IWRMS modeling system	Jan 07	Dec 07	
	WLRD	First American Real Estate	Maintenance & Support	Software maintenance & support- real property information database access	monthly		

Water & Land Resources Division/Environmental Lab

CONTRACT #	CONTRACT OWNER	SERVICE PROVIDER	FUNCTION CATEGORY	SERVICE DESCRIPTION	START DATE	END DATE	$ VALUE OF THE CONTRACT TERM
96055374D	Env. Lab	HP	Maintenance & Support	Hardware Support for DS15 Alpha server	7/1/2006	12/31/2006	3876.39
New purchase	Env. Lab	HP	Maintenance & Support	Hardware Support for ES15 Alpha server	11/2/2005	11/2/2008	Under Warranty
New purchase	Env. lab	HP	Maintenance & Support	Hardware Support for LT400 tape unit	11/2/2005	11/2/2008	623.08
204928	Env. lab	ADIC	Maintenance & Support	Hardware Support for LT200 tape unit	11/1/05	10/31/06	1500
New purchase	Env. lab	ADIC	Maintenance & Support	Hardware Support for LT400 tape unit	4/30/2004	4/29/2007	Under warranty
	ITS	Microsoft	Maintenance & Support	Microsoft enterprise agreement			
	OIRM	McAfee	Maintenance & Support	Software maintenance & support: Anti-virus, HIPS			
	Env. lab	DELL	Maintenance & Support	Hardware Support for PowerEdge servers and Desktops			Varies
59220	Env. lab	Veritas	Maintenance & Support	Software support for Backup Exec	9/4/06	9/5/07	
3425376, 1900039 3224584	ITS	Oracle Corp.	Maintenance & Support (3 CSI numbers)	Software support for RDBMS			20928.56

Section 6: Customer Base

This section provides the number of IT end-users by location. An end-user is defined as someone with login access to a computer. DNRP currently has staffed offices at 47 different locations in King and South Snohomish counties.

DNRP Directors Office/GIS Center

Name of Building	Street Address	Floor and Suite Locations	Number of End-Users	Number of Employees
King Street Center	201 South Jackson St Seattle, WA 98104	7th floor	63	63

Parks Division

Name of Building	Street Address	Floor & Suite Locations	Number of End-Users	Number of Employees
King Street Center	201 S. Jackson St Seattle, WA 98104	7th floor	28	28
Marymoor Park	6046 West Lake Sammamish Parkway NE Redmond, WA 98052	NA	30	30
Enumclaw Fairgrounds	45224 248th Ave SE Enumclaw, WA 98022	NA	7	7
Soos Creek Park	24810 148th Ave SE Kent, WA 98042	NA	10	10
White Center Community Center	1321 SW 102nd Seattle, WA 98146	NA	2	2
Sunset	13659 18th Ave S. Seattle, WA 98168	NA	12	12
Renton Shop	3005 NE 4th St. Renton, WA 98056	NA	31	31
King County Aquatic Center	650 SW Campus Drive Federal Way, WA 98023	NA	90	90
Greenhouse	15900 227th Ave SE Maple Valley, WA	NA	2	2
Renton Pool	17740 128th Ave SE Renton, WA 98058	NA	43	43
Evergreen Pool	606 SW 116th St. Seattle, WA 98148	NA	37	37
Cottage Lake	18831 NE Woodinville-Duvall Rd.	NA	2	2

Name of Building	Street Address	Floor & Suite Locations	Number of End-Users	Number of Employees
	Woodinville, WA			
Five Mile Lake	36429 44th Ave S Auburn, WA	NA	9	9
Cougar Mountain	18201 SE Cougar Mtn Dr Bellevue, WA	NA	3	3
Duthie Hill Park	26700 SE Issaquah Fall City Rd Issaquah, WA 98027	NA	2	2
Tolt McDonald Park	31020 NE 40th St. Carnation, WA 98053	NA	5	5
Dockton Park	9500 SW Dock St Vashon WA 98070	NA	1	1

Solid Waste Division

Name of Building	Street Address	Floor & Suite Locations	Number of End-Users	Number of Employees
King Street Center	201 S. Jackson St Seattle, WA 98104	7th floor	110	110
Factoria Transfer Station	13800 SE 32nd St Bellevue, WA		2	4
Houghton Transfer Station	11724 NE 60th Kirkland, WA		2	4
Renton Transfer Station	3021 NE 4th St. Renton, WA		2	4
Algona Transfer Station	35315 West Valley Hwy Algona, WA		2	4
Skykomish Drop Box	Skykomish, WA		0	0
Bow Lake Transfer Station	18800 Orillia Rd. S. Tukwila, WA		2	4
First NE Transfer Station	2300 N. 165th St. Shoreline, WA		2	4
Enumclaw Transfer Station	1650 Battersby Ave E. Enumclaw, WA		2	4
Vashon Transfer Station	18900 Westside Hwy SW Vashon, WA		1	4
Cedar Hills Landfill	16645 228th Ave SE Maple Valley, WA 98038		101	280
Cedar Falls Transfer Station	16925 Cedar Falls Rd SE North Bend, WA		1	2

Wastewater Treatment Division

Name of Building	Street Address	Floor & Suite Locations	Number of End-Users	Number of Employees
King Street Center	201 S Jackson St Seattle, WA 98104	5th floor	+275	+275
Arcweld	4228 24th Ave W Seattle, WA 98199		7-10	7-10
Jameson	2501 W Jameson St Seattle, WA 98199		7-10	7-10
East Satellite	12503 Bellevue-Redmond RD Bellevue, WA		15-20	15-20
Hidden Lake	14741 Aurora Ave N Shoreline, WA 98177	105	5-8	5-8
Vashon TP - new site	Vashon Island WWTP upgrade 9615 SW 171 S St Vashon, WA 98070		1-3	1-3
Carnation TP	City of Carnation 4621 Tolt Ave Carnation, WA 98014		2-3	2-3
Carnation CIP – new site	31500 W Entwistle St. Carnation, WA 98014		3-5	3-5
Renton Treatment Plant	1200 Monster Rd Renton, WA		+140	+140
Westpoint Treatment Plant	1400 W Utah St Seattle, WA		+160	+160
Industrial Waste Unit	130 W. Nickerson St Seattle, WA	Suite 200	25	25
Brightwater Project Office	22509 St Rt 9 SE Woodinville, WA 98072		40 -+60	40 - +60
Brightwater CM Office	19204 North Creek Parkway Suite S Bothell, WA 98011	Suite 250	10+	10+
Brightwater CIP – new site	19228 80th Ave NE Kenmore, WA 98028		+10	+10
Santler Bldg.	1520 SW Grady Way Renton, WA 98055		7	7
Pacific	1st Ave NW & Tacoma Blvd Pacific, WA		1-2	1-2
Sweyolocken	3100 Bellevue Way SE Bellevue, WA		1-2	1-2
Juanita Bay	9290 Juanita Drive NE Kirkland, WA		1-2	1-2

Water & Land Resources Division

Name of Building	Street Address	Floor & Suite Locations	Number of End-Users	Number of Employees
King Street Center	201 S Jackson St Seattle, WA 98104	6th Floor	300	300
Hazardous Waste Unit	130 W Nickerson St Seattle, WA	Suite 100	41	41
Environmental Laboratory	322 W Ewing St Seattle, WA		126	69

Section 7: Department IT Projects

The table below identifies the department's IT capital & operating projects. DNRP is committed to 100% oversight on its IT projects and sub-projects. All IT related project work will be submitted for Project Review Board oversight, as defined in the Project Review Board Governance Guide available at http://kcweb.metrokc.gov/oirm/tools_templates/PRBGovernanceGuide.doc. DNRP IT Project Managers will strive to use the OIRM project management methodology as outlined at http://kcweb.metrokc.gov/oirm/IT_ProjectManagement.html.

Detailed descriptions of the projects listed below can be found in the Technology Business Plan.

Type of Project	Name of Project	Brief Description	Timing	Budget	Status	Funding Source
New	WTD-Asset Maintenance & Management System		1/01-11/07	$4,232,267	In-progress	Capital
Replacement	WTD-STP LARS Replacement	Replacement/Upgrade of treatment plant lab systems	2001-2006	$1,980,536	Completed (in close-out)	Capital
New	WTD-Brightwater i-Net	Fiber-optic connecting link for both business WAN and Regional-Supervisory Process Control network and related data streams such as CCTV.	2007 mid-year project	$287,500 (estimated)	Not Started	Capital
New	WTD-Capacity Charge E-Commerce	An e-commerce application for citizen payment of the WTD capacity charge on new construction	2007 mid-year project	$90,600 (one time estimated) $40,600 annual, estimated)	Not started	operating

Type of Project	Name of Project	Brief Description	Timing	Budget	Status	Funding Source
Equipment Replacement	Annual equipment replacement plans – All Divisions	Asset Replacement of PCs , servers, and peripherals	On-going	Variable	On-going	Capital and operating
New	WLRD-Integrated Water Resource Modeling system	Water resource modeling system integrating data from water bodies across the County	2003-2006	$3,468,284	In-progress Phase IV	Capital
New	WLRD-Water Quality Data Assessment	Assessment project to determine if there is a business case and cost/benefit for a water quality data warehouse	2006-2009	$234,250	In-progress	Capital
New	WLRD-Water Quality Data Management	This project will implement a new water quality data warehouse, if the previous assessment project determines there is a business case and cost/benefit	2007-2009		Not Started	Capital
New	DNRP-Constituent Relationship Management	Implement a citizen communication management system that integrates with the existing County Exchange email system.	2006	$50,000	Completed 12/31/2006	Operating
New	SWD-Electronic Timekeeping	Electronic timekeeping system for field workers who do not use PC's, will upload data to POL	2006-2007		Not started	Capital
New	SWD-Cedar Hills LAN wiring infrastructure	Upgrade of existing fiber and copper LAN connectivity. Will allow full integration with voice over IP	2007-2008		Not started	Operating
New	SWD-Cedar Hills LAN network switch	Replacement of existing LAN switch hardware to allow full integration with voice	2007-2008		Not started	Capital

Type of Project	Name of Project	Brief Description	Timing	Budget	Status	Funding Source
	replacement	over IP				
New	SWD-GPS replacement	Fleet GPS monitoring system to upgrade or replace existing deficient system	2006-2007		Not started	Capital
New	Parks-Business Management Application Replacement	Replace RBASE legacy application	2008-2009	TBD	Not started	Capital
New	Parks Time Reporting System Modification	TRS application and data reporting modifications	2008-2009		Not started	Capital
New	Parks e-commerce application	Define and develop an E-Commerce application to sell parking passes on-line.	2008	$15,000 (estimated)	Not started	Capital

Section 8: Department IT Inventory

Hardware

This section provides an inventory of IT hardware equipment categories and equipment types. Equipment categories and types are described in **Appendix B**. The list in **Appendix B** is illustrative, is not intended to be all-inclusive. Please see **Appendix __** for a detailed listing of department hardware assets.

Change Dynamics:

In alignment with the 2006-2008 IT Strategic Initiatives, DNRP will be developing the following initiatives:

- Implementation of thin clients as a replacement for desktop pc's
- Consolidation of servers, particularly file and print servers
- Standardization of desktop and laptop pc's based upon the current county standards of Dell OptiPlex and Dell Latitude systems.

We will continue to replace our equipment on the standard 3-4 year replacement cycle, so full implementation of some of these initiatives will require several years.

In addition to the changes driven by the County IT Strategic Initiatives, the department will continue to deal with a rapid growth of data, and data storage requirements. In order to maintain a lower number of servers, storage area networking will be employed. The maturation of iSCSI storage area networking has made this easy to deploy and manage technology the first choice of DNRP.

Directors Office

Inventory Date	10/20/06	
Category	**Type**	**Quantity**
Workstation	Desktop Windows	32
Workstation	Laptop Windows	7
Workstation	PDAs	2
Server	Application (Dev/Test)	1
Server	Application (production)	2
Server	Database (production)	1
Server	File/Print/Database	1
Server	Active Directory DC	1
Server	Tape Backup/Restore	2
Peripherals	Projectors	2
Peripherals	Fax	2
Peripherals	Racks	1
Peripherals	UPS	5
Peripherals	Tape units	2
Peripherals	Disk Arrays (SAN, SCSI, NAS)	2
Peripherals		
Peripherals		
Wireless	800 mhz radios	8
Appliances	Cell Phones	13
	Pagers	3

GIS Center

Inventory Date	10/20/06	
Category	**Type**	**Quantity**
Workstation	Desktop Windows	31
Workstation	Laptop Windows	3
Server	Application (Dev/Test)	2
Server	Application (production)	2
Server	Database (Test)	2
Server	Database (Production)	2
Server	File/Print	1
Server	Active Directory DC	1
Server	Tape Backup/Restore	1
Peripherals	Projectors	1
Peripherals	Fax	1
Peripherals	Racks	2

Inventory Date	10/20/06	
Category	**Type**	**Quantity**
Peripherals	UPS	3
Peripherals	Tape units	2
Peripherals	Disk Arrays (SAN, SCSI, NAS)	9
Wireless	800 mhz radios	0
Appliances	Cell Phones	0
	Pagers	3

Parks Division

Inventory Date	2006	
Category	**Type**	**Quantity**
Workstation	Desktop Windows	160
Workstation	Laptop Windows	9
Workstation	PDAs	2
Server	Application (Production)	1
Server	Application (Dev/Test)	0
Server	Database (production)	2
Server	Database (Dev/Test)	0
Server	File/Print	3
Server	PDC/BDC	0
Server	Tape Backup/Restore	1
Server	Web	0
Peripherals	Projectors	1
Peripherals	Fax	17
Peripherals	Racks	1
Peripherals	UPS	2
Peripherals	Tape units	2
Peripherals	Disk Arrays (SAN, SCSI, NAS)	2
Peripherals		
Peripherals		
Wireless	800 mhz radios	31
Appliances	Cell Phones	118
	Pagers	30

Solid Waste Division

Inventory Date	2006	
Category	**Type**	**Quantity**
Workstation	Desktop Windows	207
Workstation	Laptop Windows	40
Workstation	PDAs	20

Workstation	Thin Client	12
Server	Application (Production)	25
Server	Application (Dev/Test)	2
Server	Database (production)	7
Server	Database (Dev/Test)	2
Server	File/Print	7
Server	PDC/BDC	1
Server	Tape Backup/Restore	5
Server	Web	
Server	Video-Security	14
Server	System Monitoring	2
Server	RAS	1
Peripherals	Projectors	11
Peripherals	Fax	25
Peripherals	Racks	7
Peripherals	UPS	44
Peripherals	Tape units	5
Peripherals	Disk Arrays (SAN, SCSI, NAS)	2
Peripherals		
Peripherals		
Wireless	800 mhz radios	133
Appliances	Cell Phones	86
	Pagers	21

Wastewater Treatment Division

Inventory Date	**2006**	
Category	**Type**	**Quantity**
Workstation	Desktop Windows	550+
Workstation	Laptop Windows	100+
Workstation	Desktop Macintosh	75
Workstation	PDAs	+12
Server	Application (Production)	9
Server	Application (Dev/Test)	2
Server	Database (production)	7
Server	Database (Dev/Test)	4
Server	File/Print	7
Server	DC	4
Server	Tape Backup/Restore	8
Server	Web	1
Peripherals	Projectors	8?
Peripherals	Fax	?

Inventory Date	2006	
Category	**Type**	**Quantity**
Peripherals	Racks	
Peripherals	UPS	+12
Peripherals	Tape units	4
Peripherals	Disk Arrays (SAN, SCSI, NAS)	
Peripherals		
Peripherals		
Wireless	800 mhz radios	
Appliances	Cell Phones	
	Pagers	

Water & Land Resources Division

Inventory Date	2006	
Category	**Type**	**Quantity**
Workstation	Desktop Windows	332
Workstation	Laptop Windows	59
Workstation	PDAs	2
Apple worstations	G4 / G5 OS X	6
Server	Application (Production)	3
Server	Application (Dev/Test)	1
Server	Database (production)	3
Server	Database (Dev/Test)	1
Server	File/Print	10
Server	PDC/BDC	1
Server	Tape Backup/Restore	1
Server	Web	3
Peripherals	Projectors	0
Peripherals	Fax	0
Peripherals	Racks	1
Peripherals	UPS	5
Peripherals	Tape units	1
Peripherals	Disk Arrays (SAN, SCSI, NAS)	
Peripherals		
Peripherals		
Wireless	800 mhz radios	
Appliances	Cell Phones	
	Pagers	

Water & Land Resources Division/Environmental Lab

Inventory Date	2006	
Category	**Type**	**Quantity**
Workstation	Desktop Windows	120
Workstation	Laptop Windows	8
Workstation	PDAs	0
Server	Application (Production)	1
Server	Application (Dev/Test)	1
Server	Database (production)	1
Server	Database (Dev/Test)	1
Server	File/Print	2
Server	PDC/BDC	0
Server	Tape Backup/Restore	3
Server	Web	1
Peripherals	Projectors	1
Peripherals	Fax	2
Peripherals	Racks	2
Peripherals	UPS	1
Peripherals	Tape units	3
Peripherals	Disk Arrays (SAN, SCSI, NAS)	0
Peripherals		
Peripherals		
Wireless	800 mhz radios	3
Appliances	Cell Phones	15
	Pagers	13

Commercial Software

This section provides an inventory of the department commercial software used on mainframe, servers, and desktop computers. The primary desktop operating system used in DNRP is Windows XP. There also significant numbers of Windows 2000 Pro and Macintosh systems. Microsoft Office is the standard desktop productivity suite regardless of the operating system installed. Many other types of software are in use by DNRP staff, including products from Microsoft, Adobe, ESRI, and McAfee.

Change Dynamics:

Microsoft has recently released a new desktop operating system (Vista) and Office Suite (2007). DNRP IT staff will be evaluating these new products during 2007 to develop our internal knowledge about both new products. The Microsoft Vista operating system may be introduced to the production environment after testing is completed. Microsoft Office 2007 once again causes file compatibility issues, so any change in Office suite versions must be coordinated on a broader, countywide scale.

Director's Office

Inventory Date	10/2006					
Name of Software Package or Application	**Description of the Function**	**Who Manages the Licenses**	**Who Supports the Package or Application**	**Number of Licenses Owned**	**Number of Users**	**Named or Concurrent Licenses**
Microsoft Office	Office Suite	DNRP Directors Office	DNRP Directors Office	49	49	named
Visio Standard	Office Suite Extension	DNRP Directors Office	DNRP	10	10	named
Adobe Acrobat	PDF Creation	DNRP Directors Office	DNRP	7	7	named
Adobe Go-Live	Web Content	DNRP Directors Office	DNRP Directors Office	4	4	named
Adobe Illustrator	Web/Graphics	DNRP Directors Office	DNRP Directors Office	1	1	named
Adobe Pagemaker	Web	DNRP Directors Office	DNRP Directors Office	2	2	Named
Adobe Photoshop	Web	DNRP Directors Office	DNRP Directors Office	6	6	Named
Macromedia Dreamweaver	Web	DNRP Directors Office	DNRP Directors Office	3	3	Named
Microsoft Visio Professional 2003	Charts/Diagrams	DNRP Directors Office	DNRP Directors Office	4	1	Named
Microsoft Visio Standard 2003	Charts/Diagrams	DNRP Directors Office	DNRP Directors Office	10	8	named
Microsoft Project 2000		DNRP Directors Office	DNRP Directors Office	5	3	Named
Microsoft Visual Studio 2005	Application Development	DNRP Directors Office	DNRP Directors Office	1	1	named

GIS Center

Inventory Date	10/2006					
Name of Software Package or Application	**Description of the Function**	**Who Manages the Licenses**	**Who Supports the Package or Application**	**Number of Licenses Owned**	**Number of Users**	**Named or Concurrent Licenses**
Microsoft Office 2003	Office productivity suite	GIS Center	GIS Center	31	31	named

Adobe Acrobat	PDF Creation	GIS Center	GIS Center	4	4	Named
Adobe Creative Suite		GIS Center	GIS Center	3	3	named
Adobe Illustrator		GIS Center	GIS Center	3	3	named
Adobe Pagemaker		GIS Center	GIS Center	1	1	named
Adobe Photoshop				6	6	named
ESRI ArcGIS		GIS Center	GIS Center	16	29	concurrent
Hazus MH MR1		Solid Waste Division	GIS Center	1	1	Named
Macromedia Coldfusion		GIS Center	GIS Center	1	1	named
Macromedia Contribute		GIS Center	GIS Center	10	3	named
Macromedia Dreamweaver		GIS Center	GIS Center	5	5	named
Macromedia Fireworks		GIS Center	GIS Center	1	1	Named
Macromedia Flash		GIS Center	GIS Center	1	1	named
Macromedia Freehand		GIS Center	GIS Center	2	2	named
Microsoft Frontpage		GIS Center	GIS Center	2	2	named
Microsoft Office Visio Professional 2003		GIS Center	GIS Center		5	Named
Microsoft Office Visio Professional 2003 Standard		GIS Center	GIS Center		7	named
Microsoft Project 2000		GIS Center	GIS Center		4	named
Microsoft Visual Studio 2005		GIS Center	GIS Center		11	named
Avenza Map Publisher		GIS Center	GIS Center	2	2	named

Parks Division

Inventory Date	**10/2006**	

Name of Software Package or Application	**Description of the Function**	**Who Manages the Licenses**	**Who Supports the Package or Application**	**Number of Licenses Owned**	**Number of Users**	**Named or Concurrent Licenses**
Microsoft Office	Office Suite	Parks IT Staff	Parks IT Staff	160	160	Named
Adobe Creative Suite 2 Premium	Adobe Creative Suite 2 Premium	Parks IT staff	Parks IT staff	3	3	Named
Adobe Creative 2 standard	Creative Suite 2 Standard	Parks IT staff	Parks IT staff	1	1	Named

Macromedia DreamWeaver MX	DreamWeaver MX	Parks IT staff	Parks IT staff	1	1	Named
Adobe PageMaker 6.5	PageMaker 6.5	Parks IT staff	Parks IT staff	4	4	Named
Microsoft Visio Professional	Visio Professional	Parks IT staff	Parks IT staff	2	2	Named
ArcView GIS 3.2	ArcView GIS	Parks IT staff	Parks IT staff	6	20	Concurrent
Microsoft Project 2002	Project 2002	Parks IT staff	Parks IT staff	1	1	Named
Adobe Photoshop 7	Photoshop 7	Parks IT staff	Parks IT staff	1	1	Named
Microsoft Publisher Deluxe	Publisher Deluxe	Parks IT staff	Parks IT staff	1	1	Named
Symantec PCAnywhere	PCAnywhere 11.0	Parks IT staff	Parks IT staff	2	2	Named
RBASE	RBASE 4.5++	Parks IT staff	Parks IT staff	7	7	Named
AutoDesk AutoCAD lite	AutoCad Lite R13	Parks IT staff	Parks IT staff	1	1	Named
Microsoft Windows XP Professional	Windows XP Professional	Parks IT staff	Parks IT staff	169	314	Named
Microsoft Windows 2003 Server	Windows 2003 Server	Parks IT staff	Parks IT staff	6	314	Named
Microsoft SQL Server 2000	SQL Server 2000	Parks IT staff	Parks IT staff	2	314	Named
Escom Class application server 5.1	Class Software	Parks IT staff	Parks IT staff	1	25	Named
Class Software Client	Class Software	Parks IT staff	Parks IT staff	25	25	Named
Hytech MeetManager	MeetManager	Parks IT staff	Parks IT staff	4	4	Named

Solid Waste Division

Inventory Date	**10/2006**					
Name of Software Package or Application	**Description of the Function**	**Who Manages the Licenses**	**Who Supports the Package or Application**	**Number of Licenses Owned**	**Number of Users**	**Named or Concurrent Licenses**
Crystal Reports Server	Management reports on Paradigm transactions	SWD - IT	SWD - IT	5	5	5
Visio 2003 Std	Create and view template drawings	SWD - IT	SWD - IT	15	15	15
Crystal Reports 11	ADHOC report creation for AR and Equipment systems	SWD - IT	SWD - IT	11	11	11
CompUWeigh	Scale system used to manage all waste collection	SWD - IT	SWD - IT	15	15	15

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Name of Software Package or Application	**Description of the Function**	**Who Manages the Licenses**	**Who Supports the Package or Application**	**Number of Licenses Owned**	**Number of Users**	**Named or Concurrent Licenses**
Acronis	Disk clone software	SWD - IT	SWD - IT	50	5	5
Backup Exec 11	Server backup program	SWD - IT	SWD - IT	5	5	5
PKzip pro	Compress large files for archive	SWD - IT	SWD - IT	3	3	3
Wininstall Pro	Install packager for user desktop app deployment	SWD - IT	SWD - IT	1	1	1
Journyx Timesheet	Electronic timesheet for POL upload	SWD - IT	SWD - IT	500	500	500
Track-IT Enterprise	Helpdesk and Asset Management	SWD - IT	SWD - IT	10	1000	10
Visual Studio	Application Development Suite	SWD - IT	SWD - IT	12	12	12
ScreenCam	Video capture and tutorial maker for users FAQ's	SWD - IT	SWD - IT	2	2	2
Iron Speed	WEB Dev RAD tool	SWD - IT	SWD - IT	1	1	1
Diskeeper 2007	Server defrag program	SWD - IT	SWD - IT	25	25	25
MS Project 2000	Project management	SWD - IT	SWD - IT	25	25	25
MS Access 2003	Used by Payroll for on-line database	SWD - IT	SWD - IT	1	1	1
RD	Report Deployment for SQL server	SWD - IT	SWD - IT	1	1	1
Adobe	Suite 8	SWD - IT	SWD - IT	10	10	10
Adobe	Distiller	SWD - IT	SWD - IT	35	35	35
Adobe	Illustrator	SWD - IT	SWD - IT	5	5	5
Macromedia	Dreamweaver	SWD - IT	SWD - IT	25	25	25
Adobe	Photoshop	SWD – IT	SWD - IT	7	7	7
CCG Faster	Fleet Equipment Maintenance	SWD - IT	SWD - IT	15	15	15
CCG Faster	WasteWater systems Maintenance	SWD - IT	SWD - IT	5	5	5
Availl	Server replication/disaster recovery	SWD - IT	SWD - IT	2	2	2
Equis	Environmenmtal monitoring/reporting	SWD - IT	SWD - IT	10	10	10
FM Professional 8.3x	Fleet GPS system by IRD	SWD - IT	SWD - IT	15	15	15
Nero Pro	CD/DVD burning for data archive/storage	SWD - IT	SWD - IT	10	10	10
MS Publisher	Document preparation/view/print	SWD - IT	SWD - IT	5	5	5
Safety	Safety Db-Safety tracking database	SWD - IT	SWD - IT	5	5	5
PFM	Accounts Payable application	ITS	ITS	10	10	10
FileMaker Pro	Database viewer/print	SWD – IT	SWD - IT	2	2	2

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Name of Software Package or Application	**Description of the Function**	**Who Manages the Licenses**	**Who Supports the Package or Application**	**Number of Licenses Owned**	**Number of Users**	**Named or Concurrent Licenses**
AC/DC	Photo Image management	SWD - IT	SWD - IT	5	5	5
AutoCad	Drawing software	SWD - IT	SWD - IT	4	4	4
HomeSite	WEB page management	SWD - IT	SWD - IT	10	10	10
DeltaGraph	Analytical Graph tool	SWD – IT	SWD - IT	2	2	2
ABS Expert	Tractor/Trailer brake test application reporter	SWD - IT	SWD - IT	1	1	1
Brake ABS	Brake test analyzer	SWD - IT	SWD - IT	1	1	1
Caterpillar ET	Engine diagnostic application	SWD - IT	SWD - IT	2	2	2
Data Field CS	Environmental monitoring	SWD - IT	SWD - IT	8	8	8
All Data	Truck/Tractor reference for repair of fleet tractors	SWD - IT	SWD - IT	1	1	1
MS Map Point	Used in conjunction with FM GPS application	SWD - IT	SWD - IT	15	15	15
Phoenix Fuel Management	Fuel Management application for 4 locations	SWD - IT	SWD - IT	1	1	1
iDen	iDen Motorola phone programmer	SWD - IT	SWD - IT	2	2	2
Telogger	Surface water measurement application	SWD - IT	SWD - IT	1	1	1
SurfControl	Internet access monitoring	SWD - IT	SWD - IT	10	10	10
Attachmate Extra 2000 Ent	3270 terminal emulation for main frame access	SWD - IT	SWD - IT	20	20	20
Crystal Reports 10	Reporting creator used with CCG Faster	SWD - IT	SWD - IT	5	5	5
Microsoft Office XP	Office productivity suite	SWD-IT	SWD-IT	250	250	named

Wastewater Treatment Division

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Name of Software Package or Application	**Description of the Function**	**Who Manages the Licenses**	**Who Supports the Package or Application**	**Number of Licenses Owned**	**Number of Users**	**Named or Concurrent Licenses**
ACR Systems' NEW TrendReader		WTD/ISS	WTD/ISS	1	1	
Ad-aware 6 Plus 501-1000		WTD/ISS	WTD/ISS	1000	1000	
Adobe Acrobat Std. (v4, v5, v6, v7)		WTD/ISS	WTD/ISS	90	90	
Adobe Acrobat Prof. (v6,v7)		WTD/ISS	WTD/ISS	41	41	
Adobe Creative Suite 2		WTD/ISS	WTD/ISS	4	4	
Adobe		WTD/ISS	WTD/ISS	3	3	

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Name of Software Package or Application	Description of the Function	Who Manages the Licenses	Who Supports the Package or Application	Number of Licenses Owned	Number of Users	Named or Concurrent Licenses
Illustrator						
Adobe Indesign		WTD/ISS	WTD/ISS	2	2	
Adobe Pagemaker (v6.5, v7)		WTD/ISS	WTD/ISS	9	9	
Adobe Pagemaker Plus		WTD/ISS	WTD/ISS	1	1	
Adobe Photoshop (v5, v5.5, v6, v7, v8, v9)		WTD/ISS	WTD/ISS	28	28	
Adobe Photoshop Elements (v1-v4)		WTD/ISS	WTD/ISS	27	27	
Allaire HomeSite v4.5-5.0		WTD/ISS	WTD/ISS	7	7	
Alsoft Diskwarrior 2.0		WTD/ISS	WTD/ISS	1	1	
Altova –XML Spy 3.5		WTD/ISS	WTD/ISS	5	5	
Amtec Tecplot 9.0		WTD/ISS	WTD/ISS	1	1	
AppleCare Professional Supportline and Tools		WTD/ISS	WTD/ISS	2	2	
Asset Mgmt-Lic with water service assn of Australia		WTD/ISS	WTD/ISS	1	1	
AutoCad		WTD/ISS	WTD/ISS	28	28	
AutoCad LT		WTD/ISS	WTD/ISS	10	10	
AutoDesk Map 6.0		WTD/ISS	WTD/ISS	1	1	
AutoDesk Batch Script Process 3		WTD/ISS	WTD/ISS	10	10	
AutoManager View 3.0		WTD/ISS	WTD/ISS	1	1	
AutoVue Desktop Version		WTD/ISS	WTD/ISS	19	19	
AVS Video Converter		WTD/ISS	WTD/ISS	1	1	
Bbedit (v6.0,v6.5, v8.0)		WTD/ISS	WTD/ISS	4	4	
Block Manager		WTD/ISS	WTD/ISS	1	1	
Boxcar Pro 4.0		WTD/ISS	WTD/ISS	1	1	

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Name of Software Package or Application	Description of the Function	Who Manages the Licenses	Who Supports the Package or Application	Number of Licenses Owned	Number of Users	Named or Concurrent Licenses
Brava Desktop		WTD/ISS	WTD/ISS	3	3	
CAD Overlay 2000		WTD/ISS	WTD/ISS	1	1	
Casesoft TimeMap		WTD/ISS	WTD/ISS	1	1	
Cimmetry Autovue		WTD/ISS	WTD/ISS	1	1	
Cisco VPN client		WTD/ISS	WTD/ISS	2	2	
Compaq License Pak		WTD/ISS	WTD/ISS	1	1	
Compaq Visual Fortran Pro v6.5		WTD/ISS	WTD/ISS	1	1	
Corel Paradox 9.0		WTD/ISS	WTD/ISS	12	12	
Corel Wordperfect Office 2000 Pro		WTD/ISS	WTD/ISS	1	1	
Crystal Ball 2000		WTD/ISS	WTD/ISS	1	1	
Crystal Reports v10		WTD/ISS	WTD/ISS	7	7	
Endnote (v6, X, v9)		WTD/ISS	WTD/ISS	5	5	
ETAP PowerStation System		WTD/ISS	WTD/ISS	1	1	
ExperTune PID Tuner		WTD/ISS	WTD/ISS	1	1	
FileMaker Volume License Agreement		WTD/ISS	WTD/ISS	320	320	
FileMaker Pro Advanced 8 for Windows/Mac-Upgrade		WTD/ISS	WTD/ISS	1	1	
FileMaker Server Advanced 8 for Windows/Mac		WTD/ISS	WTD/ISS	1	1	
Fireworks (MX 2004, 8.0)		WTD/ISS	WTD/ISS	2	2	
FrontPage 98, 2000,2002,2004		WTD/ISS	WTD/ISS	6	6	
G-image Version1.5		WTD/ISS	WTD/ISS	2	2	
Genuine Fractalsgenuine Fractals 1U ONONE		WTD/ISS	WTD/ISS	1	1	

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Name of Software Package or Application	Description of the Function	Who Manages the Licenses	Who Supports the Package or Application	Number of Licenses Owned	Number of Users	Named or Concurrent Licenses
Golive (v4.0, CS 7.0)		WTD/ISS	WTD/ISS	2	2	
Haestad Method Hammer Software		WTD/ISS	WTD/ISS	1	1	
ILife 05		WTD/ISS	WTD/ISS	1	1	
Imagenerun		WTD/ISS	WTD/ISS	1	1	
Intel Fortran Comp. v5.0		WTD/ISS	WTD/ISS	1	1	
IT2Be Export Plug-in		WTD/ISS	WTD/ISS	1	1	
Jasc Paint Phop Pro 7, Pro 8		WTD/ISS	WTD/ISS	3	3	
Lasso FMP WDE		WTD/ISS	WTD/ISS	1	1	
Loginetics Inc. WIN2DW2 and AGPM-2D for CE-QUAL-W2 v2		WTD/ISS	WTD/ISS	2	2	
MacLink Plus v11.0		WTD/ISS	WTD/ISS	1	1	
Macromedia Dreamweaver		WTD/ISS	WTD/ISS	10	10	
Macromedia Flash		WTD/ISS	WTD/ISS	3	3	
Macromedia Flash Professional		WTD/ISS	WTD/ISS	1	1	
Macromedia Freehand		WTD/ISS	WTD/ISS	6	6	
Macromedia Showcase		WTD/ISS	WTD/ISS	1	1	
Mainsave Volume Lic		WTD/ISS	WTD/ISS	Unlimited to WTD Staff	Unlimited to WTD Staff	
Management Computer Controls Inc. (E=MC2)		WTD/ISS	WTD/ISS	3	3	
Mathworks		WTD/ISS	WTD/ISS	1	1	
Mathworks-MATLAB		WTD/ISS	WTD/ISS	1	1	
McAfee Virex		WTD/ISS	WTD/ISS	101	101	
Metroscan		WTD/ISS	WTD/ISS	1	1	
Mindmanager 2002		WTD/ISS	WTD/ISS	1	1	
Mindmanager Pro		WTD/ISS	WTD/ISS	6	6	
Mouse		WTD/ISS	WTD/ISS	6	6	

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Name of Software Package or Application	**Description of the Function**	**Who Manages the Licenses**	**Who Supports the Package or Application**	**Number of Licenses Owned**	**Number of Users**	**Named or Concurrent Licenses**
Naturally Speaking Pro		WTD/ISS	WTD/ISS	1	1	
Norton Utilities		WTD/ISS	WTD/ISS	1	1	
Office 98 Mac		WTD/ISS	WTD/ISS	95	95	
Office Dev 2000 Win32		WTD/ISS	WTD/ISS	1	1	
Office Mac 10 Eng MVL		WTD/ISS	WTD/ISS	109	109	
Office Mac 2001 Eng MVL		WTD/ISS	WTD/ISS	2	2	
Office Pro 2003		WTD/ISS	WTD/ISS	540	540	
OneNote 2003 Win32		WTD/ISS	WTD/ISS	1	1	
Paint Shop Pro 9		WTD/ISS	WTD/ISS	8	8	
PaperPost Deluxe		WTD/ISS	WTD/ISS	1	1	
Paint Shoe Pro 7		WTD/ISS	WTD/ISS	1	1	
PbPlus -1		WTD/ISS	WTD/ISS	1	1	
PHA-Pro 6		WTD/ISS	WTD/ISS	1	1	
PhotoDraw 2000		WTD/ISS	WTD/ISS	1	1	
Pipe Flow Professional 2005/TechNet Plus 1.2		WTD/ISS	WTD/ISS	1	1	
Plan-it STOAT		WTD/ISS	WTD/ISS	1	1	
PMID 3.0 MLP		WTD/ISS	WTD/ISS	1	1	
Primavera – Expedition		WTD/ISS	WTD/ISS	2	2	
Primavera-SureTrack		WTD/ISS	WTD/ISS	4	4	
Project 2000		WTD/ISS	WTD/ISS	66	66	
Project 2002		WTD/ISS	WTD/ISS	27	27	
Project 2003		WTD/ISS	WTD/ISS	41	41	
Project 4.0		WTD/ISS	WTD/ISS	18	18	
Project Central 2000		WTD/ISS	WTD/ISS	1	1	
Publisher 2000		WTD/ISS	WTD/ISS	1	1	
Publisher 2002		WTD/ISS	WTD/ISS	1	1	
Publisher 97		WTD/ISS	WTD/ISS	2	2	
RSMeans Contruction Mgmt Data—Costworks BCCD		WTD/ISS	WTD/ISS	2	2	
ScanSoft		WTD/ISS	WTD/ISS	1	1	

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Name of Software Package or Application	Description of the Function	Who Manages the Licenses	Who Supports the Package or Application	Number of Licenses Owned	Number of Users	Named or Concurrent Licenses
Scientific Software group		WTD/ISS	WTD/ISS	1	1	
SharePoint Portal CAL 2001		WTD/ISS	WTD/ISS	5	5	
SharePoint Portal Svr 2001		WTD/ISS	WTD/ISS	1	1	
Shavlik HFNet ChkPro5.x		WTD/ISS	WTD/ISS	100	100	
Siemens Energy & Automation, Inc.		WTD/ISS	WTD/ISS	1	1	
Sonic Solutions ROM Formatter		WTD/ISS	WTD/ISS	1	1	
SPSS Sigmaplot 2000		WTD/ISS	WTD/ISS	1	1	
Streets and Trips 2005		WTD/ISS	WTD/ISS	1	1	
Streets and Trips 2006		WTD/ISS	WTD/ISS	6	6	
Streets and Trips Eng MVL		WTD/ISS	WTD/ISS	1	1	
Studio MX 2004		WTD/ISS	WTD/ISS	2	2	
Surfer		WTD/ISS	WTD/ISS	1	1	
Sybase Infomaker 10.5		WTD/ISS	WTD/ISS	8	8	
ThumbsPlus v7 Network License		WTD/ISS	WTD/ISS	5	5	
Symantec Knowledge base		WTD/ISS	WTD/ISS	1	1	
Toast Titanium		WTD/ISS	WTD/ISS	2	2	
Tree Size Professional		WTD/ISS	WTD/ISS	2	2	
UltraEdit-32		WTD/ISS	WTD/ISS	1	1	
VC++Pro 6.0		WTD/ISS	WTD/ISS	1	1	
Virtual PC		WTD/ISS	WTD/ISS	35	35	
Visio Intellicad 98		WTD/ISS	WTD/ISS	1	1	
Visio Pro		WTD/ISS	WTD/ISS	77	77	
Visual Basic Pro 6.0		WTD/ISS	WTD/ISS	6	6	
Visual Fortran Pro		WTD/ISS	WTD/ISS	1	1	
Volo View 3.0		WTD/ISS	WTD/ISS	2	2	
VStudio.NET		WTD/ISS	WTD/ISS	1	1	
VStudio.NET Pro		WTD/ISS	WTD/ISS	3	3	

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Name of Software Package or Application	**Description of the Function**	**Who Manages the Licenses**	**Who Supports the Package or Application**	**Number of Licenses Owned**	**Number of Users**	**Named or Concurrent Licenses**
WBS Chart Pro 4.X		WTD/ISS	WTD/ISS	4	4	
WorkPace		WTD/ISS	WTD/ISS	1	1	

Water & Land Resources Division

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Name of Software Package or Application	**Description of the Function**	**Who Manages the Licenses**	**Who Supports the Package or Application**	**Number of Licenses Owned**	**Number of Users**	**Named or Concurrent Licenses**
Microsoft Office	Office Suite	WLRD LAN Unit	Microsoft	345	345	named
Visio Standard		WLRD LAN Unit	Microsoft	15	15	Named
Acrobat	PDF making software	WLRD LAN Unit	Adobe	100	100	Named
Dreamweaver	Web content management	WLRD LAN Unit	Macromedia	30	30	Named
Visio Pro		WLRD LAN Unit	Microsoft	15	15	named
ArcView 3.2	Mapping software	WLRD LAN Unit	ESRI	30	150	Concurrent
ArcGIS 9.2	Mapping Software	WLRD LAN Unit	ESRI	15	10	Concurrent
AutoCADD	Computer aided design software	WLRD LAN Unit	AutoDesk	15	25	Concurrent
Project Pro	Project management software	WLRD LAN Unit	Microsoft	50	50	Named
InDesign	Graphics application	WLRD LAN Unit	Adobe	5	5	Named
Illustrator	Graphics application	WLRD LAN Unit	Adobe	15	15	Named
Photoshop	Photo application	WLRD LAN Unit	Adobe	25	25	Named
EndNote		WLRD LAN Unit		15	15	Concurrent
Visual Studio.net 2005	Applicatoion development	WLRD LAN Unit	Microsoft	7	7	Named
SigmaPlot	Excel graphing plug-in	WLRD LAN Unit	Systat	15	15	Named
SPSS	Statistic software	WLRD LAN Unit	SPSS	15	15	Named
TeeChart	Graphing development software	WLRD LAN Unit	Steema	15	15	Named
MatLab	Data analysis/visualization tool	WLRD LAN Unit	Mathworks	6	6	Named
ArcV2Cad	Cadd GIS integration software	WLRD LAN Unit	Guthrie	5	5	Named

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Name of Software Package or Application	Description of the Function	Who Manages the Licenses	Who Supports the Package or Application	Number of Licenses Owned	Number of Users	Named or Concurrent Licenses
Visual Fortran	Application development	WLRD LAN Unit		3	3	Named
Surfer	Groundwater modeling software	WLRD LAN Unit	Goldensoft	3	3	Named
Total Access	Statistics software	WLRD LAN Unit	FMS	12	12	Named
VisualModFlow	Grownd water modeling software	WLRD LAN Unit	Flowpath	2	2	Named
WinZip	Data compression software	WLRD LAN Unit	Winzip	70	70	Named
WSFTP	FTP software	WLRD LAN Unit	IPswitch	30	30	Named
ColdFusion	Web app programming	WLRD GIS/WEB/ VC Unit	Adobe	1	1	Named
Visual Studio .NET	Web application programming	WLRD GIS/WEB/ VC Unit	Microsoft	1	1	Named
After Effects	Animation & Video editing	WLRD GIS/WEB/ VC Unit	Adobe	1	1	Named
Premiere	Video/sound editing & production	WLRD GIS/WEB/ VC Unit	Adobe	1	1	Named
Sound Forge	Sound editing & design	WLRD GIS/WEB/ VC Unit	Sony	1	1	Named
Flash	Animation, multimedia	WLRD GIS/WEB/ VC Unit	Adobe	1	1	Named
Webtrends Professional Suite	Web performance measurement/mgt	WLRD GIS/WEB/ VC Unit	Webtrends	1	1	Named
Lynx Browser	Web dev, test, troubleshoot	WLRD GIS/WEB/ VC Unit		1	1	Named
Mac Safari Browser	Web dev, test, troubleshoot	WLRD GIS/WEB/ VC Unit	Apple	1	1	Named
Firefox Browser	Web dev, test, troubleshoot	WLRD GIS/WEB/ VC Unit	Firefox	1	1	Open Source
Netscape Browser	Web dev, test, troubleshoot	WLRD GIS/WEB/ VC Unit	Mozilla	1	1	Named
Opera Browser	Web dev, test, troubleshoot	WLRD GIS/WEB/ VC Unit	Opera	1	1	Named
GoLive	Web development	WLRD GIS/WEB/ VC Unit	Adobe	1	1	Named

Water & Land Resources Division/Environmental Lab

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Name of Software Package or Application	**Description of the Function**	**Who Manages the Licenses**	**Who Supports the Package or Application**	**Number of Licenses Owned**	**Number of Users**	**Named or Concurrent Licenses**
Microsoft Office	Office Suite	OIRM	ISDA	About 120	69	
Visio		Env. lab	ISDA			
Frontpage	Web development	Env. lab	ISDA	4	4	
Macromedia	Web development	Env. lab	ISDA	4	4	
Visual Studio	Web development	Env. lab	ISDA	5	5	
Reflections	Emulation software	Env. lab	ISDA	1	5	
LIMS	Lab Information Management	Env. lab	ISDA	1	69	
Acrobat		Env. lab	ISDA	2	2	
KEA	Terminal Emulation software	Env. lab	ISDA	7		
CETIS	Bioassay Statistical	Env. lab	ISDA	5	5	Named
SEDQUAL	Sediment Quality database	DOE	ISDA	3	3	Named
ARC GIS	GIS mapping program	WLRD	Vendor	8	8	Named
ToxCalc	Bioassay Statistical	Env. lab	ISDA	4	4	Named
BioStat	Bioassay Statistical	Env. lab	ISDA	4	4	Named
Revelations	ELISA Plate Reader	Env. lab	ISDA	1	1	Named
OMNI	Microtox Assay	Env. lab	ISDA	1	1	Named
Softmaxpro	ELISA Plate Reader	Env. lab	ISDA	1	1	Named
Norton Ghost						
SQL Server Enterprise manager	Manage Database system	Env. lab	ISDA	1	1	Named
Balance Link	Lab Analytical software	Env. lab	Vendor	1		
HachLink	Lab Analytical software	Env. lab	Vendor	1		
Winflow	Lab Analytical software	Env. lab	Vendor	3		
Win TOC	Lab Analytical software	Env. lab	Vendor	1		
Brinkmann Workcell	Lab Analytical software	Env. lab	Vendor	1		
Collect V4.01	Lab Analytical software	Env. lab	Vendor	3		
Hitachi UV Solutions V2.0	Lab Analytical software	Env. lab	Vendor	1		
LapLink Gold 11.5[(5)]	Lab Analytical software	Env. lab	Vendor	14	Lab staff	
Chromeleon 6.70 SE	Lab Analytical software	Env. lab	Vendor	1		
FASPac II [(6)]	Lab Analytical software	Env. lab	Vendor	1		
ProWeigh Express V.3.0.	Lab Analytical software	Env. lab	Vendor	1		
MicroLog 3	Lab Analytical software	Env. lab	Vendor	1		
SOFTmax	Lab Analytical software	Env. lab	Vendor	1		

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Name of Software Package or Application	Description of the Function	Who Manages the Licenses	Who Supports the Package or Application	Number of Licenses Owned	Number of Users	Named or Concurrent Licenses
HP 3365 ChemStation	Lab Analytical software	Env. lab	Vendor	1		
Sherlock	Lab Analytical software	Env. lab	Vendor	1		
Matrox Meteor	Image Processing Software	Env. lab	Vendor	1		
SPSS 8.0	Statistical Software	Env. lab	Vendor	1		
Wasp Bar Coding	Bar Coding Software	Env. lab	Vendor	1		
Vitek	Microbila ID Program	Env. lab	Vendor	1		
TEVA (v1.5)	ICP Operating Software	Env. lab	Vendor			
PowerChute	UPS Monitoring Software	Env. lab	Vendor	2		
Target Server and Client Software	GC and GCMS data processing software	Env. lab	Vendor	11		
Veritas Backup	File Backup Software	Env. lab	Vendor	2		
Exceed	Terminal Emulation for X-Server	Env. lab	Vendor	12		
VOCtek	Controller software for the Tekmar Solatek 72 purge and trap	Env. lab	Vendor	3		
ASE software	Controller software for Accelerated Solvent Extractor	Env. lab	Vendor	3		
TI Connect	Data transfer to hand held graphing calculators	Env. lab	Vendor	1		
PE Elan (v. 2.1)	ICPMS Operating software	Env. lab	Vendor	1		
Cetac Mercury Analyzer (v. 1.5.1)	Mercury Analyzer Operating Software	Env. lab	Vendor	1		
Tekran - MDS (v. 1.0)	Mercury Analyzer Operating Software	Env. lab	Vendor	1		
Trimble Aspen	GPS Navigation software	Env. lab	Vendor	2		
Calendar creator	Weekly workload scheduler	Env. lab	Vendor	1		
ISCO Flowlink	Field auto sampler software	Env. lab	Vendor	1		
Boxcar Pro 4	Thermister login software	Env. lab	Vendor	3		
Licor LI-1400	PAR sensor software	Env. lab	Vendor	1		
EcoWatch	YSI Sond Field system software	Env. lab	Vendor	4		
CTD software	CTD data processing software	Env. lab	Vendor	1		
NobleTech	GPS Navigation Software	Env. lab	Vendor	2		

Inventory Date	10/2006	

Name of Software Package or Application	Description of the Function	Who Manages the Licenses	Who Supports the Package or Application	Number of Licenses Owned	Number of Users	Named or Concurrent Licenses
OTT Hydras 3LT	Hydrolab maintenance software	Env. lab	Vendor	7		
YSI Profile Wizard	YSI Maintenance Software	Env. lab	Vendor	1		
TOPO	Mapping Software	Env. lab	Vendor	1		
Levelogger Gold	Software for In-situ instrument	Env. lab	Vendor			
Sequoia Scientific LISST	Programming software for LISST instrument	Env. lab	Vendor	2		
Camble Scientific Loggernet	Uploading and downloading in-situ YSIs	Env. lab	Vendor	1		
OSPI	Treatment Plant Information System (SCADA)	WTD	-	1		
MatLab	Graphics package for LISST data			1		
Terrasync & Pathfinder	Navigation software for Research vessels	Env. lab	Vendor	2		
Traclink 1500	Underwater tracking software	Env. lab	Vendor	1		
Document Converter	Converts docs to PDF	Env. lab	ISDA	1		
Apache Tomcat	JSP Web server	Env. lab	ISDA	1		
Oracle Development Suite	Development tools for Oracle	Env. lab	ISDA	4		
Oracle Application Server	Middle tier for web service	Env. lab	ISDA	1		
Oracle RDBMS	Database management system	Env. lab	ISDA	2		
UNIX True64	Alpha Server Operating system	Env. lab	HP	2		
Crystal Reports	Report generator	Env. lab	ISDA	2		
DHI	Hydrologic Modeling Software	WLRD/Science Unit	DHI			

Custom Developed Software

This section provides an inventory of the department custom developed software.

Internet Applications:

App Name	App Owner	Description/Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)

App Name	App Owner	Description/Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
Puget Sound Fresh	Deanna Duke	Provides information to the general public regarding buying fresh, local produce and supporting local farms	General Public	Classic ASP	Google Maps API 2.0	Access 2003	
Puget Sound Fresh Admin	Deanna Duke	Allows WLR Farm Specialist the ability to maintain the Puget Sound Fresh site	Internal Staff - WLR Farms Group	Classic ASP	geocoder.us API; AJAX	Access 2003	1
Technical Documents	Deanna Duke	Provides a list of available research documents to the general public	General Public	Classic ASP	N/A	Access 2000	
Technical Documents Admin	Deanna Duke	Allows WLR Research Center staff the ability to maintain the Technical Document site	Internal Staff - WLR Research Center	Classic ASP	N/A	Access 2000	1
Swimming Beaches	Daniel Smith	Displays bacteria and water temperature data collected from swimming beaches during the summer months	General Public, public health officials	ASP.NET 1.1	Google Map API ; Steema TeeChart	SQL 2000	
Lakes Monitoring	Daniel Smith	Displays and allows users to download water quality data collected from various locations in Lake Washington, Lake Union, and Lake Sammamish.	General public, consultants, scientists, students	ASP.NET 1.1	Steema TeeChart	Access 2003	
Streams Monitoring	Daniel Smith	Displays and allows users to download water quality data collected from various streams in King County.	General public, consultants, scientists, students	ASP.NET 1.1	Steema TeeChart	SQL 2000	
Marine	Henry Daehnke/Daniel Smith	Displays and allows users to download water quality data collected from various location in Puget Sound. Displays information about Marine programs and displays photos of marine life	General public, consultants, scientists, students	ASP.NET 1.1	Google Map API ; Steema TeeChart	SQL 2000	
HIC	Henry Daehnke/Daniel Smith	Displays and allows users to download hydrology and water quality data collected from various streams in King County.	General public, consultants, scientists, students	ASP.NET 1.1	Steema TeeChart	SQL 2000	

App Name	App Owner	Description/Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
Native plant guide	Eric Maia			ASP.Net (C#) 1.1	OXC Mail	SQL Server	
WRIA 9 CIP db	Eric Maia			ColdFusion (4.5.1)	Links to iMap mapset	SQL Server	
GrantExchange Express application	Eric maia			ColdFusion (4.5.1)		Access	
Salmon watcher data online	Eric Maia			ColdFusion (4.5.1)		SQL Server	
Public comment tracking system	Eric Maia			ColdFusion (4.5.1)		Access	
NW Gardening Connection	?			ColdFusion(4.5.1)		Access	
Watershed Stewardship Directory	Eric Maia			ColdFusion (4.5.1)		Access	
Salmon Quiz	?			ColdFusion	Flash	Access	
Survey Tool	Eric Maia			ColdFusion		Access	
SalmonWatcher	Harkeerat Kang (previously Collene Gaolach)			ASP.NET 1.x (specifically 1_1_4322)	ArcIMS (salmon watcher map service), ArcIMS.NET Connector, DPAPI encryption, SMTP on deployment server for emailing error msgs to developer using kclist.metrokc.gov server	SQL Server, ArcSDE	

App Name	App Owner	Description/Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
Snoqualmie Riparian Photo Viewer	Harkeerat Kang (previously Collene Gaolach)			ASP.NET 1.x (specifically 1_1_4322)	ArcIMS (snoqoblique map service), ArcIMS.NET Connector, Smart Scroller (Strength Controls .Scrolling), SMTP on deployment server for emailing error msgs to developer using kclist.metrokc.gov server	SQL Server, ArcSDE	
Restoration Sites	Orphaned			Cold Fusion	Unknown	Unknown	
Small Habitat Restoration Submission	dev unknown, updated by Fred Bentler			Cold Fusion	Unknown	none	
Willows Run Monitoring	Henry Daehnke			ASP.NET 1.1 (using C#)	Steema TeeChart	SQL 2000	
Vashon Island Groundwater	Fred Bentler			Cold Fusion	javascript	none	
Flood Warning System	Fred Bentler			Cold Fusion	USGS data parser	Access 2000	
Noxious Weed List	Fred Bentler			Cold Fusion		SQL Server	
Parks Fair Survey	Fred Bentler			Cold Fusion	javascript	Access 2000	
Parks Order Form	Unknown			Cold Fusion	Unknown	Unknown	
Parks Survey	Fred Bentler			Cold Fusion	javascript	Access 2000	

App Name	App Owner	Description/Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
WRIA 8	Fred Bentler			Cold Fusion	javascript	none	
WRIA 9	Fred Bentler			Cold Fusion	javascript	none	
WRIA 9 Correspondence	Fred Bentler			Cold Fusion	javascript	none	
Burlington Northern	Fred Bentler			Cold Fusion	javascript	none	
WLR Web site survey	Fred Bentler			ColdFusion	javascript	none	
DNRP Performance Measures	Fred Bentler			Cold Fusion	javascript	none	
"404_Redirector" Handler	Jim Frohoff	Provides selective redirection of all website 404 errors on Splash2 and dnr.metorkc.gov servers. This is setup as the "404" error handler aspx page in IIS console on a per-webserver basis. Multiple virtual webservers each require their own copy of the application in their virtual root folder if they want their own 301 redirection list.. The application queues up an XML list of desired 301 redirections. It scans the list to see if the current requested (missing) page is in the list. If so, it returns a 301 redirect to the new page location. If not, it returns the regular 404 error HTML		VS2003/ VB.NET ASP.NET v1.1	xml parser	static xml file	

App Name	App Owner	Description/Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
		page. Also, when enabled, a suffix substitution feature allows for requests to "[anypage].shtml" page to be redirected to [anypage].asp page. The suffix substitution feature was added to specifically handle errors from SWD converting their webpages over to the new server where shtml files were disallowed. There is a simple XLS front-end that allows setup and automated generation of the XML lookup file.					
Flood Hazard Plan Survey	Eric Maia			ColdFusion	Unknown	Unknown	
Shorelines Update mapping tool	Eric Maia	Allows Web users to look up shoreline analysis info about their parcel or other areas and learn more about King County's Shoreline master Program update process.	General Public	ASP.Net 1.1	ArcIMS .Net Connector, GIS Web services	SQL Server	Potentially thousands of users (e.g. ~15,000 unincorporated shoreline property owners)
SWD Internet Site	Jay Beach	Provides information to the public regarding Solid Waste's services and programs	General Public	Classic ASP		SQL Server	
SWD Junk Vehicle	Unassigned	Provide reporting/ logging/ response to abandoned vehicles	General Public	Classic ASP		SQL Server	
Parks Info	Harkeerat Kang	Provides information to the public regarding the Quick Search, reserve indoor or outdoor park facilites	General Public	Classic ASP			
Parks Fair Site	Mel Bouphareth	Provides information to the public regarding the King County Fair	General Public	Classic ASP		SQL Server	

App Name	App Owner	Description/Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
Parks Fair Admin Application	Mel Bouphareth	Allows staff to maintain Parks fair site	Interal Parks Staff	Classic ASP	FCKEditor	SQL Server	

Intranet Applications:

App Name	App Owner	Description/ Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
SWD Call Tracking Application	Deanna Duke	Provides the SWD Customer Service group the ability to track all the phone calls received by type and collect additional demographic/user information. Contains search and reporting functionality	SWD Customer Service	Classic ASP		Access 2003	60
SWD Illegal Dumping	Deanna Duke	Provides the KC Illegal Dumping program the ability to track complaints, locate the appropriate jurisdiction and forward the information to the appropriate staff/jurisdiction. Contains search and reporting functionality.	SWD Illegal Dumping group; DOT; Public Health	Classic ASP		SQL Server 2000	

App Name	App Owner	Description/ Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
Parks TRS	Deanna Duke	Provides Park staff the ability to track their time; Employee Comments Tracking Module; Employee Leave Tracking Module; Temp Employee Tracking Module; SMP Tracking Module	Parks staff	Classic ASP		SQL Server 2000	
Parks TRS Reporting	Harkeerat Kang	Provides Park staff the ability to view custom reports on TRS data	Parks staff	Access 2000 reports		SQL Server 2000	
GIS TRS	Deanna Duke	Provides GIS staff the ability to track their time	GIS staff				
GIS Peoplesoft Upload	Deanna Duke	Allows GIS staff the ability to upload data from TRS to Peoplesoft	GIS staff	ASP.NET 1.1	Putty	SQL Server 2000	
Public Disclosure Request	Deanna Duke	Allows DNRP Director's Office staff the ability to track Public Disclosure Requests submitted by the public	Director's Office staff	Classic ASP		Access 2003	
Research Request	Deanna Duke	Allows internal DNRP staff the ability to request specific literature from the research library	DNRP staff	Classic ASP		Access 2003	

App Name	App Owner	Description/ Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
Research Request Admin App	Deanna Duke	Allows Research library staff the ability to track research requests submitted and track the number of hours spent on the request. Contains reporting functionality	Research library staff	Classic ASP		Access 2003	
WLRD SWM Inquiries	Deanna Duke	Allows Surface Water Management staff the ability to track calls and complaints re: the SWM program and fee increases	WLR SWM staff	Classic ASP		Access 2003	
WLRD Noxious Weed List admin interface	Fred Bentler	Enable updates to King County noxious weed list Public Web site. Admin site is internal-only and requires windows authenitication	WLR Noxious Weeds staff	ColdFusion		SQL Server 2000	
Intranet Rating system	Fred Bentler	QA/QC feedback app. Enables employees to provide anonymous assessment of usefulness of intranet pages, provide specific feedback on problem pages for intranet publisher followup. Enables intranet users and developers to browse a ranked list of rated pages to use and to share ideas..	DNRP intranet users	ColdFusion		Access 2003	

App Name	App Owner	Description/ Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
Intranet correspondence form	Fred Bentler	Web form to deliver e-mail correspondence from intranet pages, usually to solicit staff suggestions.	DNRP intranet users	ColdFusion			
WLRD Training	Eric Maia		Maureen Dahlstrom	ASP.NET 1.1		Access	Used by entire WLRD (~300?)
Legislation Review System	Eric Maia	Used by legislative liasons in all departments	Karen Freeman in the Exec's Office; data entry by Council Staff office	ColdFusion		SQL Server	Used by legislative liasons in all departments (~100?), Exec's Office, and county lobbyists
Internal Survey Tool	Eric Maia	Tool that allows user to set up surveys on the intranet.	Various county staff for internal surveys	ColdFusion		SQL Server	The largest survey is the Ethics survey/ quiz, which goes out to all county e-mail users (typical response for the Ethics quiz is ~1800).

App Name	App Owner	Description/ Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
MISv2 Web interface	Eric Maia	Small intranet Web app to allow Roads staff easy access to the MIS system so they can update work orders	DSS (Curt Crawford / Candi McKay)	Classic ASP		SQL Server	May be used by a few employees.
Lab Intranet site	Env. Lab - ISDA	Intranet site for the lab staff providing information on dataguide, Lab SOPs, Quality Assurance and other information needed by lab staff for their day to day operations.	KC intranet users	HTML, Classic ASP	Java scripts	Oracle	
LIMSView	Mingxian Xu	Enable King County staff to extract environmental data data from Env. Lab's LIMS database. Users can create and save queries. In additon, it allows searching and viewing of documents and reports relating to sample analysis stored in the database.		JSP, ASP		Oracle	
LIMSQC	Env. Lab - ISDA	Allow customers to obtain Quality Control data for analytical samples	Lab customers	Classic ASP	Crystal Report Writer	Oracle	
CTD	Env. Lab - ISDA	View sampling locations and extract marine CTD profile data which includes such parameters such as temperature, dissolved oxygen, salinity, density, etc.	KC intranet users	Classic ASP		SQL Server	

App Name	App Owner	Description/ Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
Env Lab Work Plan System	Env. Lab - ISDA	Allows environmental lab to plan for next year's work load. Customers can enter their project needs and sampling frequencies. Summary reports of work load can be produced for the entire lab and for individual analytical area.	Lab staff & customers	Classic ASP	Crystal Report Writer	Oracle	
WLRD data manage ment Intitiative	Env.Lab - ISDA and Daniel Smith	Provide information about Environmental Projects completed by WLRD, steps in creating a new project, data collection protocols, sampling and analysis plans, metadata creation and data release policies.	KC intranet users	Classic ASP		SQL Server	
SWD Landfill Gas Monitoring and Reporting System	Kurt Vaupel	Models Landfill Gas System by managing gas reading routes, storing gas reading records, monitoring landfill gas activity and providing reports.	Landfill Gas Crew and Engineers	Perl	PerlScript	SQL Server 2000	6
SWD Purchase Request System-Stores Order form	Kurt Vaupel	Replaces paper purchase request process.	SWD-Ops: Supervisors, Storekeepers, Accounts Payable, and staff.	Perl		MySQL	20 - 30
SWD Contracts Tracking System	Kurt Vaupel	Used to comply with all contract reporting requirements	Project Control Officer and Contract Specialist	Perl	Javascript	SQL Server 2005	2

App Name	App Owner	Description/ Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
SWD Landfill Ops System	Kurt Vaupel	Tracks Landfill Operations activity cycles.	Landfill Ops Supervisor and Leads	Classic ASP?	Javascript	Access	3
SWD Training Request System	Orphaned by Derik Hickling	Provides facility for requesting, approving and reporting of employee training.	SWD employees	Classic ASP	VBScript, JavaScript	SQL Server 2000	~450
SWD Ops Stat	Lisa Huntley	Report on key operational statistics	Operations Managers, Supervisors, Leads	VB	SQL Server Reporting Services	SQL Server 2000	10
SWD Landfill Gas Reporting Services	Kurt Vaupel and Lisa Huntley	Record and report on Landfill Gas readings	Landfill Gas, Landfill Engineers	VB	SQL Server Reporting Services	SQL Server 2000	7
SWD Paradigm-Reporting Services	Ed Turner/Tom Nguyen, Ken Willis	Record and report on transactional details	Reports-Management, Supervisors, Leads	VB	SQL Server Reporting Services	SQL Server 2000	10+
SWD Faster (Shop)-Reporting Services	John Crum/Lisa Huntley	Record vehicle, equipment, parts and labor data for shop maintenance	Shop	VB	SQL Server Reporting Services, Crystal Reports	SQL Server 2000	25+

App Name	App Owner	Description/ Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
SWD Seniority	Lisa Huntley	Process MSADL files to keep employee data current	HR	Access/VB		Access	2
SWD 527Payroll	Lisa Huntley	Process 527POL files for use in querying and reporting on Labor. Used for overtime analysis and staffing models, for example.	Analysts, HR	Access/VB		Access	3
SWD Trailer Activity	Lisa Huntley	Track transportation unit specific data	Transportation Supervisor and Leads	Access/VB	SQL Server Reporting Services	Access, SQL Server 2000	5
SWD Journyx-Reporting Services	John Crum/Eugene Guber	Specialized reports to record and track hours worked	Fiscal	SQL Server Reporting Services		SQL Server 2000	200+
SWD Transportation Staffing	Lisa Huntley	Model used for transportation staffing	Transportation Supervisor and Lisa	Access/VB		Access/VB	

Desktop Applications:

App Name	App Owner	Description/ Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
Swimming Beach GeoMean Calculator	Dan Smith	Calculates geometric means of bacteria data collected from swimming beaches during the summer. The application also sends emails to public health officials advising them on the bacteria levels.	WQQ	ASP.NET 1.1 C#		SQL Server 2000	30
Water Quality Index Caculator	Dan Smith	Calculates water quality indices for streams sampled through the streams monitoring program	WQQ	ASP.NET 1.1 C#		SQL Server 2000	6
WKRD SWM Rate Model	Richard Rice	Calculates SWM Rates and predicts resultant revenue.	WLRD Finance	Access/SQL Server/VB		SQL Server / Access MDB	1
WLRD City Billing	Cindy Chan	Queries ARMS data and generates customer ready bills for city billing of WRLD DSS technician and equipment hours	WLRD Finance	Access/SQL Server/VB		SQL Server / Access MDB	2
WLRD Miller/Salmon Creek Billing	Cindy Chan	Queries ARMS data and generates customer ready bills for city billing of WRLD DSS technician and equipment hours	WLRD Finance	Access/SQL Server/VB		SQL Server / Access MDB	2
WLRD Budget Model	Steve Oien	Preps WLRD budget down to the Cost Package level. Provides many specialized reports and analysis to compare various versions and against previous	WLRD Finance	VB / Access MDB / SQL Server / Crystal Reports		SQL Server / Access MDB	35

App Name	App Owner	Description/ Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
		years budgets.					
WLRD Burden Rate Calculator	John Allen	Reads Budget Model data combined with locall stored data and caclulates WLRD's Burden Rates	WLRD Finance	VB.NET / C#.NET / Crystal Reports / SQL Server		SQL Server	2
WLRD ArmsEagleSQL	WLRD Finance	Provides simple interface to ARMS Eagle Server allowing various ASO's to easily query and report on the data.	WLRD Finance	Access MDB / SQL Server/VB		SQL Server / Access MDB	45
WLRD DSS Maintenance Information System	WLRD DSS Section	Provides inventory of all surface water management sites in KC, downloads to laptops for remote data entry on-site. Highly data-driven system, allows component type and facility data reconfiguration as req'd. Automatically generates work orders.	WLRD Drainage Systems Services Section	VB / Access MDB / SQL Server / Crystal Reports		SQL Server / Access MDB	16
WLRD Complaint Tracking	WLRD DSS Section	Complaint Tracking System	WLRD Drainage Systems Services Section	Access / VB		Access MDB	16
WLRD Flood Warning Center System	WLRD Flood Hazard Reduct ion Section	Multiple warning systems, repository synch, automated data download and visualization systems	WLRD Flood Hazard Reduction Section	Excel / Access / VB / VB.NET		Access MDB	50

App Name	App Owner	Description/ Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
WLRD Mailing Label Db	WLRD Finance/Admin	Database mailing list maintenance database	WLRD - Various Sections	Access / VB		Access MDB	5
WLRD Arms Reporter	WLRD	Wrapper for many ARMS reports. Ties into ARMS_EagleSQL Server and presents easy interface for users to select reporting period and report type.	WLRD - Various Sections	Access / VB / SQL Server		SQL Server / Access MDB	10
WLRD HAZ Security Admin	WLRD Hazardous Waste Section	Provides centralized Administrative control for multiple applications	WLRD HAZ	Access / VB		Access MDB	35
WLRD HAZ LHWMP	WLRD Hazardous Waste Section	Local Hazardous Waster Monitoring Program database. Used by multiple groups for haz waste inspections, school inspections, Voucher program, etc.	WLRD HAZ	Access / VB		Access MDB	35
Stream/Rain Gage Data Loader	WLRD Science Section	Imports CSV files of gage data into SQL db	WLRD Science Section, Stream Gaging	Access / VB		Access MDB / SQL Server	2
Buoy Data Loader	WLRD Science Section	Imports CSV files from lake buoys and imports into SQL Server	WLRD Science Section, Stream Gaging	Access / VB / SQL Server		Access MDB / SQL Server	1
Executive Information System	Pava Sivam	Allows lab users to access the monthly lab performance data. A variety of statistics regarding the lab's work flow and performance are computed and stored.	Enviro Lab staff	Access		Access	

App Name	App Owner	Description/ Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
Fixed assets	Dave Quekett	Maintains inventory of fixed assets in the lab. This includes the Lab instruments, IT hardware, surplussing information and replacement dates.	Enviro Lab staff	Access		Access	
CTD Data loader	Kerry Tappel	Allows field staff to load the CTD data to the database maintained at the King Street Center.	Enviro Lab staff	VB		SQL Server	
Coordinate Convertor	Env. Lab - ISDA	Converts the state plane coordinates of sampling locations to Lat/Long and vice versa and post the data to the Oracle database.	Enviro Lab staff	IDXL		Oracle	
Instrument Data Processors	Env. Lab - ISDA	A series of applications written to help scientists process the instrument outputs, format them and load the LIMS database.	Enviro Lab staff	VB		Oracle	
Report Generators	Env. Lab - ISDA	A series of applications that enable lab staff and customers to generate various kinds of reports.	Envirol Lab staff & Lab Customers	IDXL		Oracle	

App Name	App Owner	Description/ Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
Data File Dispatcher	Env. Lab - ISDA	Automatically mails lab reports to customers after applying randomized passwords; also maintains an inventory of the reports and associated information.	Enviro Lab staff	VB			
Build Input WDM	Henry Daehnke	Writes out scripts used in watershed hydrology simulation (HSPF). Used in Integrated Water Resource Modeling System (IWRMS).	WLRD Science Section	.NET 1.1 / C#		None	1
HIMDriverASCII Merger	Henry Daehnke	Merges ASCII output from program used in watershed hydrology simulation. Used in Integrated Water Resource Modeling System (IWRMS).	WLRD Science Section	.NET 1.1 / C#		None	1
HSPFTo Lake Linker	Henry Daehnke	Converts output from watershed hydrology simulation (HSPF) to lake simulation input. Used in Integrated Water Resource Modeling System (IWRMS).	WLRD Science Section	.NET 1.1 / C#		None	1

App Name	App Owner	Description/ Purpose	Group Who Uses App	Main Technology	Secondary Technologies	Database	# of Users (if known)
HSPFTo River Linker	Henry Daehnke	Converts output from watershed hydrology simulation (HSPF) to river simulation input. Used in Integrated Water Resource Modeling System (IWRMS).	WLRD Science Section	.NET 1.1 / C#		None	1
OutputAll HSPF Nodes	Henry Daehnke	Modifies watershed hydrology simulation (HSPF) scripts to output information from all simulated nodes.	WLRD Science Section	.NET 1.1 / C#		None	1
UCITo HIM Driver Converter	Henry Daehnke	Converts a UCI script used in watershed hydrology simulation (HSPF) models to another scripting utility. Used in Integrated Water Resource Modeling System (IWRMS).	WLRD Science Section	.NET 1.1 / C#		None	1
MM5 Down loader	Henry Daehnke	Scrapes U of WA Reginal Climate Output Model (MM5) website for data.	WLRD Science Section	Python 2.4		None	1

2007 Development:

App Name	App Owner	Description/ Purpose	Group Who Uses App	App Type	Main Technology	Secondary Technologies	Database
SWD Illegal Dumping Rewrite	Deanna Duke	Provides the KC Illegal Dumping program the ability to track complaints, locate the appropriate jurisdiction and forward the information to the appropriate staff/jurisdiction. Contains search and reporting functionality.	SWD Illegal Dumping group; DOT; Public Health	Intranet Web Application	ASP.NET 2.0	GIS Web Services	SQL Server 2005
Parks Website Search Integration	Deanna Duke	Add better searching functionality to the Parks website to allow users to find facilities easier. May include improved mapping.	General Public	Internet Web Application	TBD	GIS Web Services or MS Virtual Earth	SQL Server 2000
Rural Stewardship Planning application	Eric Maia	Planning/collaboration tool to help rural landowners create a Rural Stewardship Plan for their property and help program staff track plan progress.	Public; Katy Vanderpool	Internet Web Application	ASP.NET 1.1		SQL Server 2000
Mitigation Reserves	Eric Maia	Planning/tracking tool to assist program staff in matching mitigation reserves funding with appropriate mitigation sites.	Katie Gellenbeck	Intranet Web Application	ASP.NET 1.1		SQL Server 2000
IRAC (Interagency Resource for Achieving Cooperation)	Eric Maia; Lien Jardine	Collaboration site for members of IRAC program (Local Haz Waste)	Steve Joyce, LHWMP	Internet Web Application	ASP.NET 1.1		SQL Server 2000
WTD Data Access	Eric Maia, Shaun O'Neil	Improve access to internal and external data sources needed by WTD employees. Most likely will include a mapping component.	Shaun O'Neil	Intranet Web Application	ASP.NET 1.1 (TBD)		SQL Server 2000 (TBD)
Flood Warning System Incremental Update/Enhancements	Fred Bentler	Updates to flood warning system include new data integration, charting, database conversion, map updates and potential integration to Sitecore	General Public	Internet Web Application	ColdFusion	USGS data parser	SQL Server 2000

App Name	App Owner	Description/ Purpose	Group Who Uses App	App Type	Main Technology	Secondary Technologies	Database
SWD Landfill Ops System Rewrite	Kurt Vaupel	Tracks Landfill Operations activity cycles.	Landfill Ops Supervisor and Leads	Intranet Web Application	Perl	Javascript	SQL Server 2005
SWD Faster (Shop)-Reporting Services: upgrade to SQL 2005	John Crum/Lisa Huntley	Record vehicle, equipment, parts and labor data for shop maintenance	Shop	Intranet Web Application	VB	SQL Server Reporting Services, Crystal Reports	SQL Server 2005
SWD Journyx-Reporting Services: upgrade to 2005	John Crum/Eugene Guber	Specialized reports to record and track hours worked	Fiscal	Intranet Web Application	SQL Server Reporting Services		SQL Server 2005
Rivers Facility Inventory	Henry Daehnke, James Develle	Improve storage of and access to information on river facilities such as levees, revetments, and so on.	Flood Hazard Reduction Services Section of WLRD	Desktop Application	Access 2003	Interface with Trimble GPS unit. Software from Trimble.	SQL Server 2000 (possibly 2005)
Control Charting	Env. Lab - ISDA		Environmental Lab	Intranet Web Application			
Lab Assets	Env. Lab - ISDA		Environmental Lab	Intranet Web Application			
Chemical Inventory	Env. Lab - ISDA		Environmental Lab	Intranet Web Application			

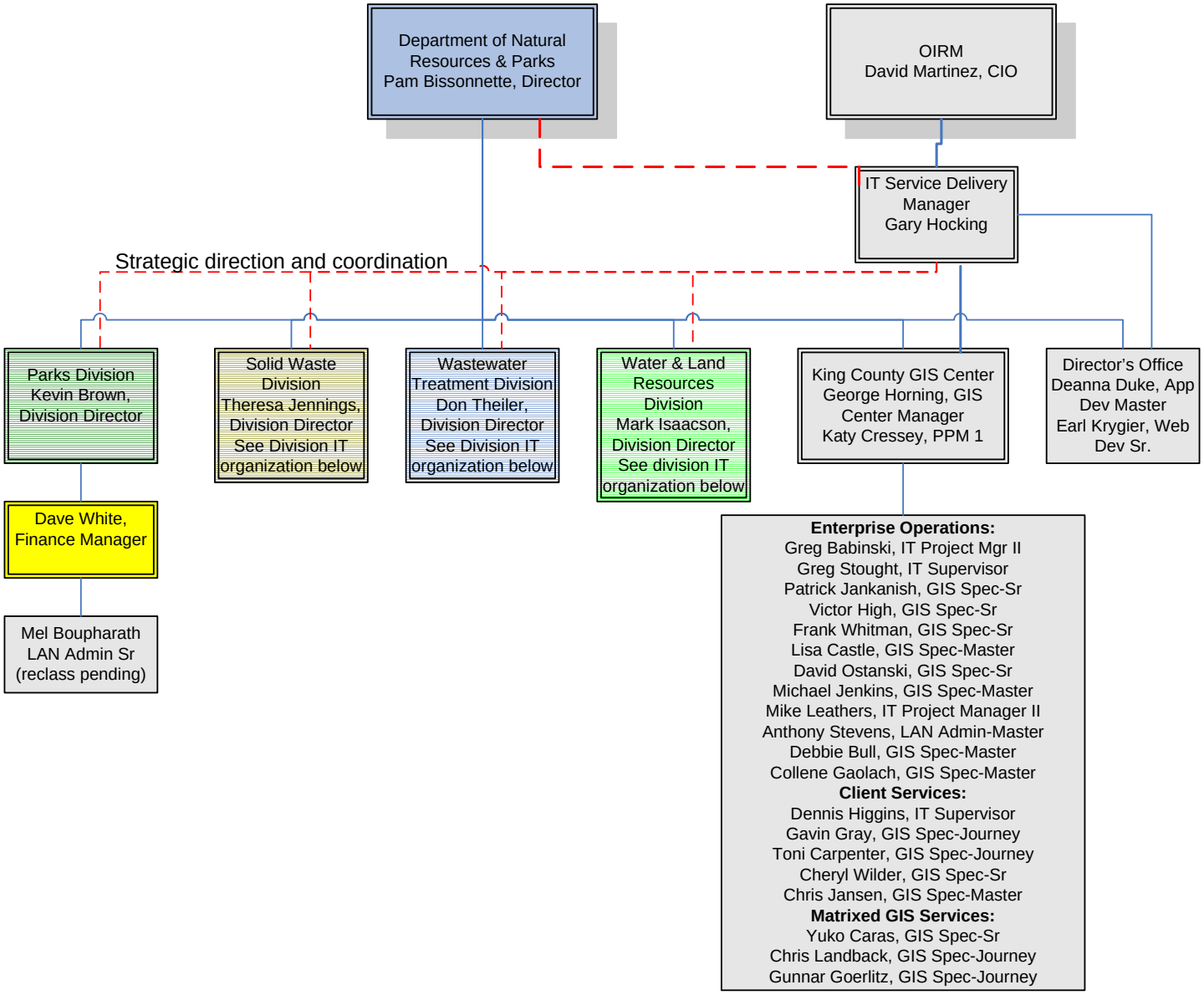
Section 9: Department IT Staffing

IT Organization Structure

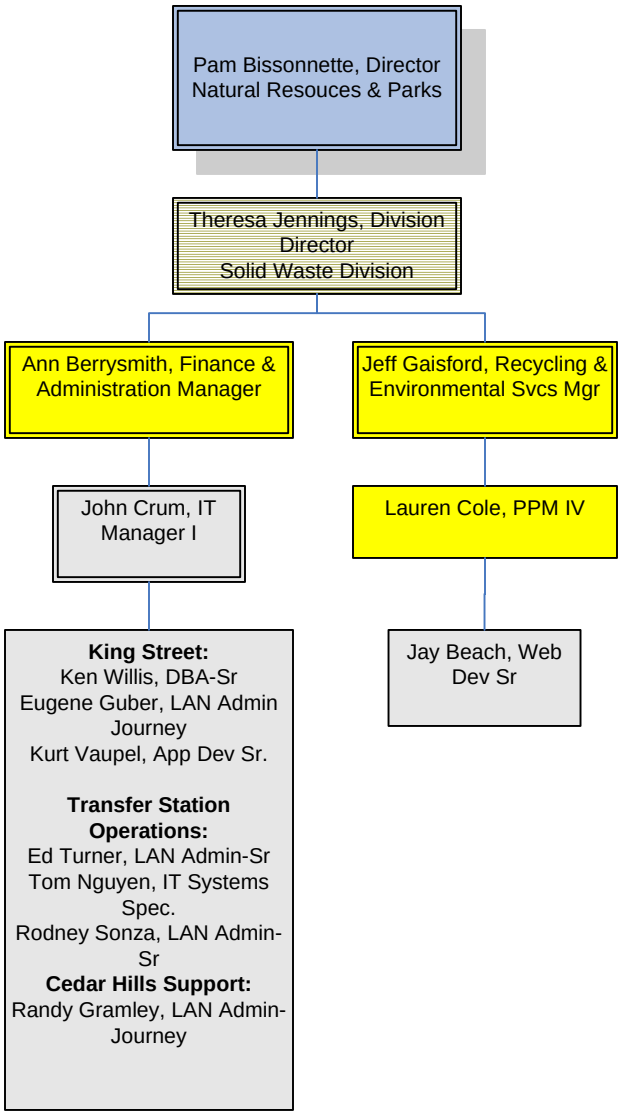
The organization charts below depict the IT staffing distribution within DNRP. At this time, the organization of IT staff within DNRP is federated because the department has chosen to locate IT support staff as closely as possible to the lines of business which they support. The current model provides a high level of support to individual business functions, but also creates silos which complicate the coordination of IT services.

Department of Natural Resources and Parks
2007 Information Technology Organization

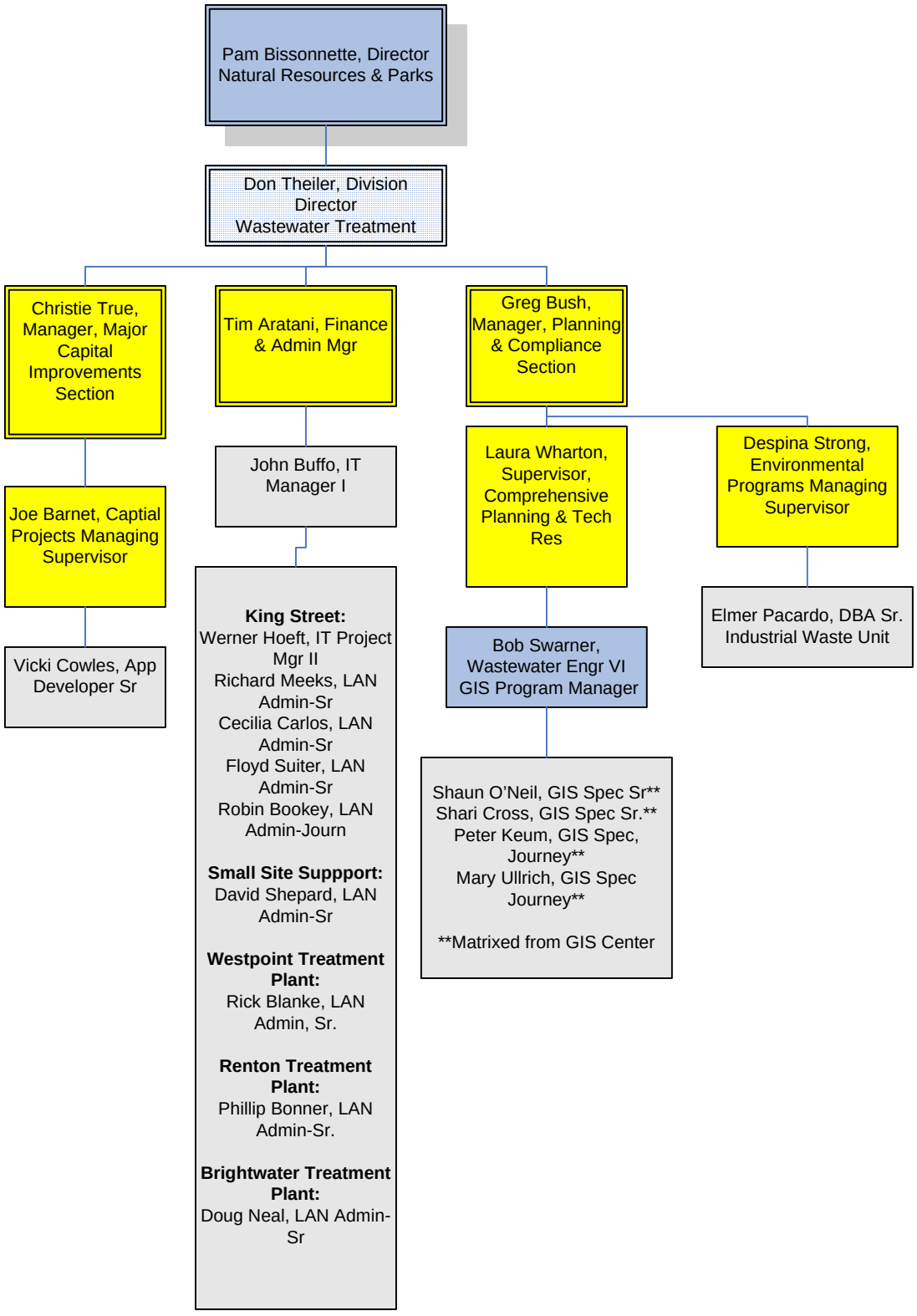
NOTE: These charts only depict the IT portions of the department organization.

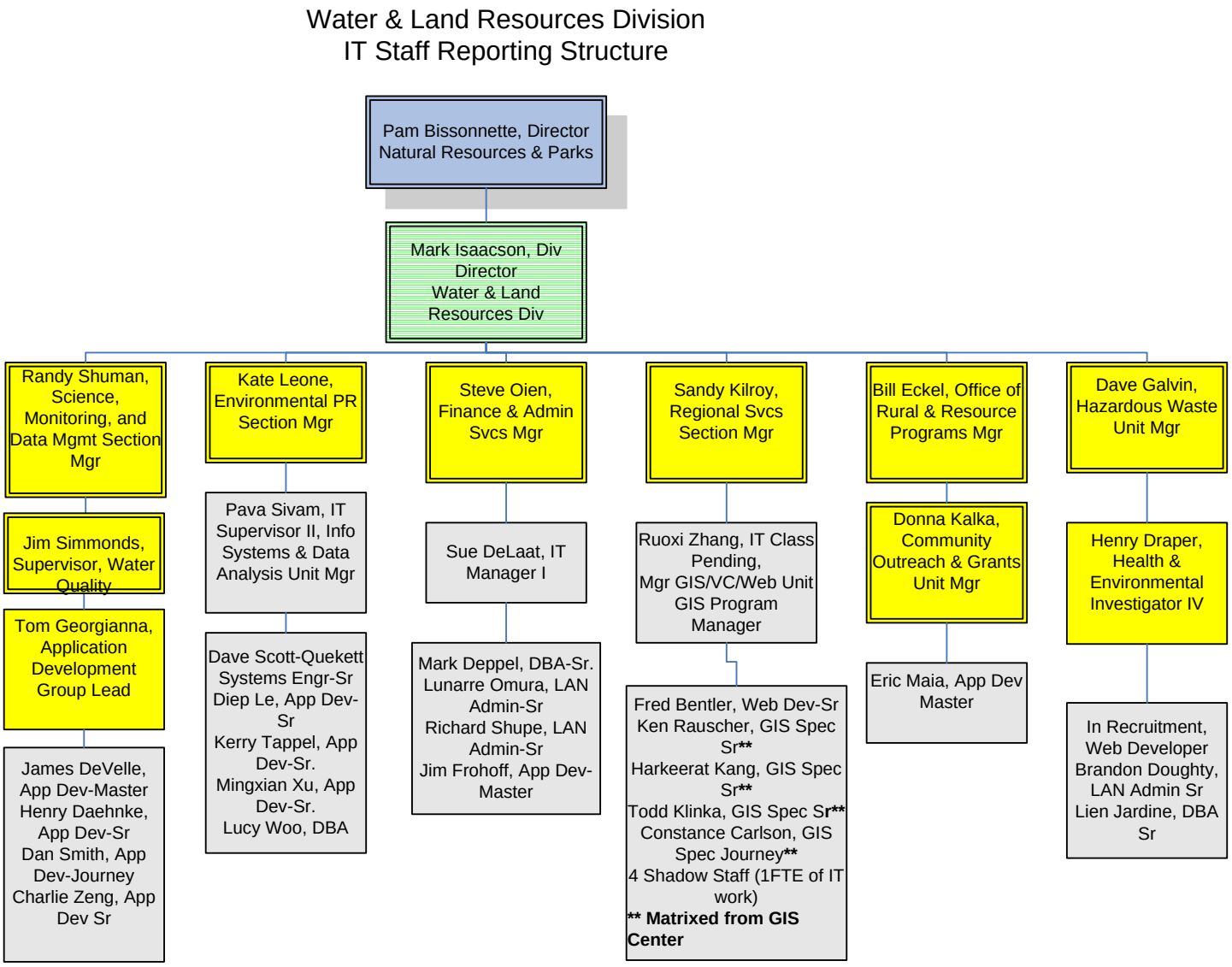


Solid Waste Division IT Staff Reporting Structure



Wastewater Treatment IT Reporting Structure





IT Organization Structure Change Dynamics

In the 2006-2008 Strategic Technology Plan, Strategic Objective 3.1- Reorganize Technology Functions calls for a reorganization of technology functions on a countywide basis. It will involve reconfiguring how technology functions are managed and organized within King County. This objective is based upon results from consultant studies and task forces which have identified potential opportunities for cost savings and service improvements.

On June 1, 2006, King County Executive Ron Sims transmitted to the King County Council his recommendation, Business Case, Vision, Goals, and Organization Structure, and proposed legislation for a countywide IT reorganization. The King County Council approved the Executive's recommendation on July 24, 2006. For reference, the complete text of the Executive's recommendation on IT reorganization is located at: http://kcweb.metrokc.gov/oirm/ITReOrg/Executive_Recommendation_on_IT_Reorganizationv11.doc

The key areas where roles and responsibilities need to be clarified for the Executive Recommendation are the Chief Information Officer (CIO), the Office of Information Resource Management, department IT Service

Delivery Managers, and Department Directors. The descriptions below clarify the roles and responsibilities in each of the four areas.

Chief Information Officer (CIO)

- Responsible for planning, oversight and management of IT functions within the Executive Branch
- Approves the department IT Service Delivery Plan in conjunction with the department director (*IT service delivery plan will be comprised of budget requirements and service level agreements)*
- Ensures that department specific IT service delivery needs are met according to the agreed upon goals and objectives
- Responsible for hiring and managing the department IT service delivery manager, in consultation with the department directors, to manage the day-to-day IT operations within the department
- Ensures that department IT needs are aligned with the countywide three year strategic technology plan and the annual technology business plan
- Management of the Office of Information Resource Management
- Reports to the King County Executive

Office of Information Resource Management

- IT Governance, Strategic Planning and IT Program Management Office
- Enterprise Wide IT Operations (current ITS Division)
- Department IT Service Delivery Functions within the Executive Branch

Department IT Service Delivery Manager

- Assists the CIO in the preparation and updates of the department IT Service Delivery Plan
- Ensures department specific IT service delivery needs are met in compliance with overall Executive Branch IT Service Delivery Plan and direction
- Supervises departmental IT staff
- Reports directly to the CIO and to the department director on service level performance matters pertaining to the IT Service Delivery Plan.
- Facilitates the reviews and monthly reporting of IT projects tracked by the Project Review Board.
- Conducts performance evaluations of appropriate IT Managers and Supervisors, along with the DNRP Business Managers whose programs are being supported.
- Will make hiring decisions for IT Managers and Supervisors , in consultation with the appropriate DNRP Division Management
- Will be an advocate for the Department's IT service needs to OIRM

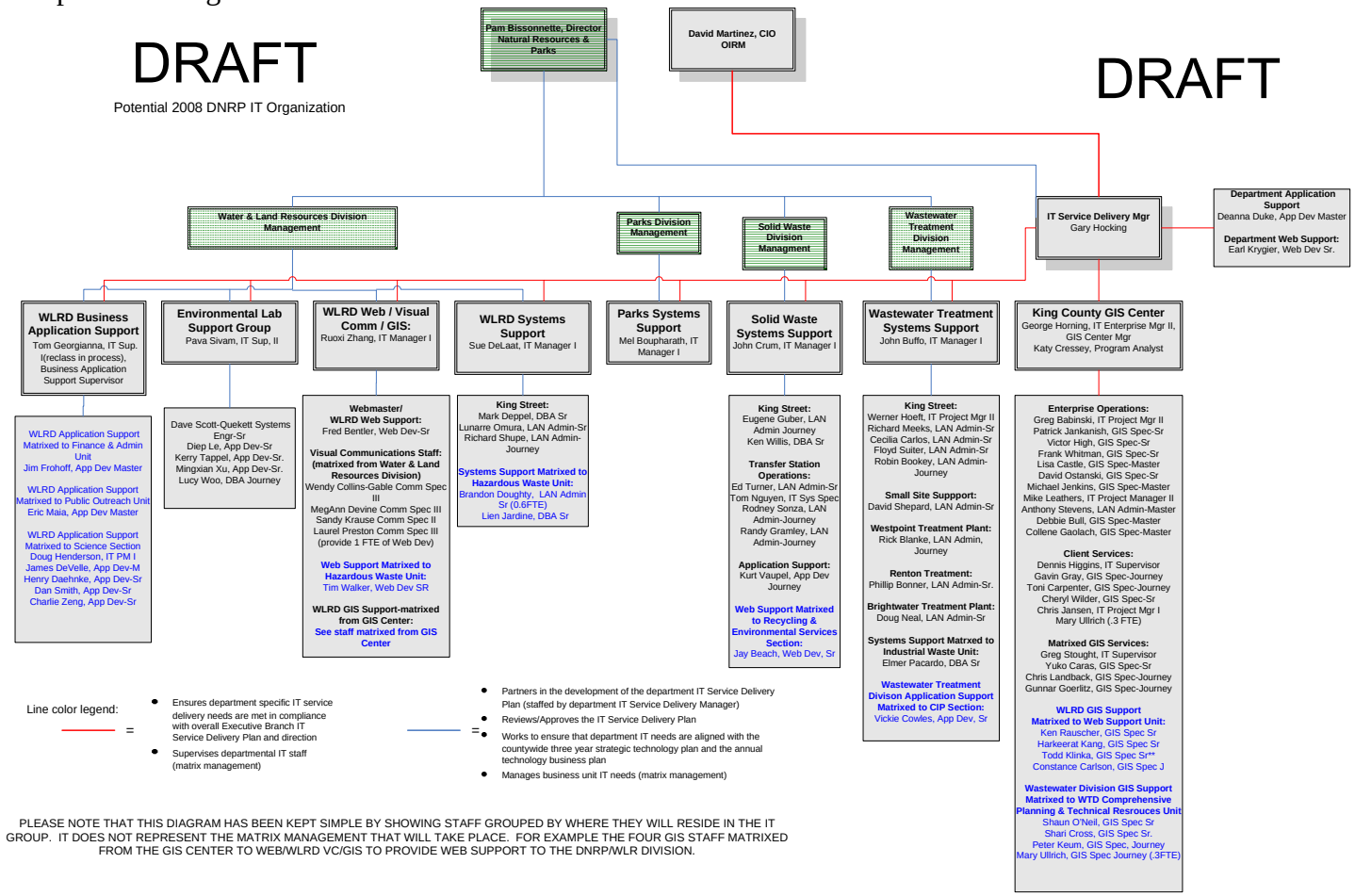
Department Director

- Partners with the CIO in the development of the department IT Service Delivery Plan (staffed by department IT Service Delivery Manager)
- Approves the IT Service Delivery Plan in conjunction with the CIO
- Works closely with the CIO to ensure that department IT needs are aligned with the countywide three year strategic technology plan and the annual technology business plan
- Participates with the CIO on hiring the IT Service Delivery Manager and on their performance evaluations.

To align DNRP with the Council approved Executive recommendation, a restructuring of IT staff reporting relationships will need to take place. The new IT organization within DNRP will be determined in 2007 and in

place by 2008. As defined in the Executive recommendation, all IT staff within DNRP will report directly to the IT Service Delivery Manager. The IT Service Delivery Manager will team with DNRP Division Business Managers to identify and deliver the IT services required by each business line. Division Business Managers will be asked to provide performance review as it pertains to delivery of these IT services. The IT Service Delivery Manager is currently working with DNRP Division Management to plan and execute the necessary changes in IT staff reporting relationships. Implementation of these changes will also require the support of HR/Labor Relations.

An updated IT organization within DNRP should look like:



The IT Service Delivery Manager must actively work with the DNRP Management Team to determine the matrix management necessary to maintain the delivery of IT resources to department/division business units while remaining compliant with new County IT policies, standards and guidelines. This will include maintaining the matrix management relationships necessary to support the multidisciplinary business application development and support projects occurring in several department work units. In the long term, a single IT organization structure within DNRP should provide our IT professionals with more opportunity to interact with peers, provide more opportunity for staff backup, and provide a clearer path for staff advancement.

IT Staffing

Please refer to Appendix D for a complete list of IT positions within DNRP. This information is also linked to the budget tables in the budget sheet in Appendix E.

In addition to the budget information in Appendices D and E, there is also updated Total Cost of Operations (TCO) information in Appendix G. The TCO information provides a detailed breakdown of the types of IT support and services provided by DNRP IT staff and IT shadow staff (staff that are not IT-titled, but spend at least 10% of their time performing IT support activities).

IT Staffing Change Dynamics:

The IT staffing and TCO information provided in this report is significantly different from the TCO report provided by PTI Consulting in 2003. In 2003, PTI made the decision to NOT calculate the majority of work done by GIS professionals as IT work and it was not included in the TCO report. We do not agree with that decision, so all work done by the County's GIS professionals is now fully reflected in the labor cost calculations and the TCO spreadsheets. Another factor driving change to IT staffing and TCO during the period since 2003 was the County IT Class/Comp project which reclassified non-IT staff who were performing a large amount of IT shadow work to IT classifications. This resulted in an increase in the number of IT positions in the department. Annual COLA and merit pay awards also had some effect on overall IT labor costs.

Section 10: Department IT Budget Summary

IT Labor Costs

The IT labor costs are an important component of the department IT budget. Please see Appendix D for a complete listing of DNRP IT staff and IT shadow staff costs, broken down by position.

IT Budget

The IT Budget is the summation of the department IT costs for labor, capital, and operating expenses. Please see Appendix E for complete department budget information. The department IT labor costs in Appendix E are linked in from department IT labor costs spreadsheet in Appendix D. The approximate IT Costs for DNRP in FY07 are:

Total Loaded Salary & Benefits	Total IT Goods & Services Cost	Total FY07 IT Operating Cost
$8,898,208	$7,347,262	$16,245,470

These amounts are considered approximate due to 2007 merit award and COLA calculations

IT Budget Change Dynamics:

The IT budget amounts reflected in this plan are significantly different than what was reported in the 2003 TCO report compiled by PTI. The primary factor for this change is the inclusion of our Geographic Information System (GIS) staff in the IT labor calculation. In 2003, PTI did not consider GIS work to be IT related.

At this time, the 2008 budget implications from the ABT project, IT reorganization, and other major OIRM centrally managed projects are unclear. It is anticipated that any 2008 budget impacts from projects such as these will be determined during the budget development process.

Section 11: Department IT Performance Measures

In past years, each DNRP division IT unit has captured its own specific performance measures and these measures have not rolled up to the department level. As part of the new IT service delivery plan, the following list of measures and targets have been developed. Please note that DNRP divisions have very different businesses, requiring different levels of systems support and response timing. The targets shown in the table below represent the largest target window currently supported. Individual DNRP divisions may have more stringent targets.

During 2007-2008 work will continue to define, track, and update these measures accordingly. Appropriate performance measurement reports will also be developed in conjunction with the OIRM participation in the Kingstat project. The department performance measurements will be added into the OIRM IT Performance Measurement Program described later in this section.

DNRP IT Service Delivery Related Measures		
Service	**Measure**	**Target**
business applications	scheduled availability	99.5%
internet servers	scheduled availability	99.8%
internal servers	scheduled availability	99.5%
local area networks	scheduled availability	99.99%
data and system backups	successfully created nightly	95%
retrieval of off-site data/system backups for emergency requests		5 hours
Staff availability/coverage	Hours during the business day	8-5
incident response (critical issues)	during business hours (Parks, WLRD, WTD, GIS) during business hours (SWD)	60 minute (average) 20 minutes (average)
incident response (critical issues)	critical services outside business hours (Parks, WLRD, WTD) critical services outside business hours (SWD)	240 minute (average) 20 minutes (average)
Incident response (non-critical issues)	During business hours	24 hours
Web - quality	Visitor experience rating	TBD – level to be set based on existing measure, need Maximine software operational
Web – quality/reliability	Average internal/external link integrity	TBD – level to be set based on existing measure, need Maximine software operational
Web - effectiveness	Year to year visits increasing	Annual positive increase (+)
Integrated IT –customer service	Customer satisfaction	Satisfaction rate > 98%
Integrated IT –project awards	% awarded projects from submitted projects	Annual positive increase (+)

DNRP IT Service Management Related Measures		
Service	**Measure**	**Target**
IT Project Status	Green(on track, within scope, schedule, budget)	100%
Projects funding release requests	timely review of	100%
project business cases and supporting cost-benefit plans	timely review of	100%
IT projects	oversight on all	100%
equipment replacement plans	submittal of	100%
annual security compliance report	submittal of	100%
department service delivery plan	development/revision of	Annual
Technology Business Plan	development and delivery of the department sections	Annual
Annual Technology Report	compilation and distribution	Annual

Central IT Performance Measures

OIRM has established the following central IT performance measurement program. Details of the program and monthly, quarterly, and annual reports are available on the following web site: http://kcweb.metrokc.gov/oirm/performance_measurement.aspx

IT PROJECT PERFORMANCE MEASURES

COUNTYWIDE IT PROJECT OVERSIGHT

- 100% oversight on all IT projects
- 100% Monthly posting of IT Governance materials
- 100% timely review and approval of funding releases
- 100% timely review of project business cases and supporting benefit plans
- 100% of IT projects have adequate management plans

COUNTYWIDE IT PROJECT MANAGEMENT

- 100% of IT projects started as planned
- 100% IT project completion within approved budget
- 100% IT project completion by approved date
- Less than 5% IT project cancellations
- 100% green IT project status
- 100% Achievement of committed benefits
- 100% submittal of equipment replacement plans

IT ENTERPRISE OPERATIONAL PERFORMANCE MEASURES

SECURITY & PRIVACY

- 99.5% scheduled availability – Enterprise security tools
- Cyber incident response plan activation within 2 hours
- Up to 2 technical and 2 user security and privacy training sessions per year

ENTERPRISE APPLICATIONS

- 99.9% scheduled availability – E-mail
- 99.6% scheduled availability – Business applications

ENTERPRISE COMPUTING SYSTEMS

- 99.8% scheduled availability – Internet servers
- 99.7% scheduled availability – Mainframe

IT ENTERPRISE OPERATIONAL PERFORMANCE MEASURES - CONTINUED

ENTERPRISE NETWORK

- 99.99% scheduled availability – Enterprise network

DATA CENTER & OPERATIONS

- Data and system back-ups successfully created nightly
- 3 hour retrieval off-site data backups - emergency requests
- Next business day retrieval of off-site data/system back-ups - normal requests
- 99% of reports printed and distributed by next business day
- 24 hour monitoring of physical and environmental conditions at Data Center
- On-site staff availability / coverage 7/24/365

HELPDESK

- Less than 10% of calls to helpdesk are dropped
- 30 minute (average) incident response during business hours (for Enterprise apps, systems & network)
- 60 minute (average) incident response for critical services outside business hrs (Enterprise apps, system & network)

TELECOMUNICATIONS

- 95% new phone line installation (1-20 lines) within three to five business. days
- Centrex & PBX repair – 2 hour priority response

RADIO

- 99.999% scheduled availability – Remote radio sites
- 95% radio installations in vehicles completed within 1 week

PRINT & GRAPHICS

- 95% on-time delivery of finished product
- 95% business card delivery within 3-5 business days
- 95% on-line photo availability within 48 hours
- 95% estimate requests completed within 48 hours

WHAT IS PERFORMANCE MEASUREMENT?

Performance measurement *is the use of statistical evidence to determine progress toward specific defined organizational objectives.*

- Using data and facts to complement management intuition improves the organization's decision making process.
- A performance measurement program identifies key outputs and outcomes that can be measured within an organization in order to assess organizational performance related to its goals and objectives.

PERFORMANCE MEASUREMENT SUPPORTS PERFORMANCE MANAGEMENT

- Actual performance is compared with targeted performance to determine if things are on-track or require corrective action.
- Because performance changes take place over time, periodic measurements are collected to determine the rate of progress towards goals.
- Performance measurement review meetings are held periodically to analyze and assess performance and determine any needed corrective actions to accomplish goals
- Annually, performance targets are reset based on goals achievement and/or new business drivers. This includes the identification of new measures & targets, new targets for existing measures, and removal of old measures that are no longer useful.

OIRM'S PERFORMANCE MEASUREMENT PROGRAM

- OIRM has established a comprehensive performance measurement program intended to monitor its primary lines of business leading to improved performance and accountability.
- Monthly, quarterly, and annual performance measures have been identified for IT Strategic Planning, IT Project Delivery, and IT Enterprise Operations.
- OIRM posts performance results to its performance measurement web site in addition to distributing monthly, quarterly, and annual performance reports. *HTTP:/kcweb.metrokc.gov/oirm/performance_mea*
- Performance reviews are conducted monthly by the CIO and staff.
- Measures support the Executive's Kingstat program.

IT STRATEGIC PLANNING PERFORMANCE INDICA

- **STRATEGIC PLANNING & COMPLIANCE**
  - On-time delivery of Strategic Technology Plan every 3 yrs
  - Annual development/delivery of Technology Business Plan
  - Annual compilation/distribution of Annual Technology Rpt.
- **STRATEGIC GOALS & OBJECTIVES**

GOAL - EFFICIENCY

- Achieve efficiency through planning and implementing improved enterprise business systems for the executive, judicial, and legislative branches
- Achieve efficiency for IT project management with published project management practices and tools
- Achieve efficiency through regular measurement and reporting of IT operations and projects.

IT STRATEGIC PLANNING PERFORMANCE INDICATORS - CONTINUED

- Achieve efficiency through improved integration of law, safety, and justice systems.
- Achieve efficiency by standardizing document and records management countywide.
- Achieve efficiency by managing information technology with a portfolio approach.
- Achieve efficiency by standardizing data retrieval.
- Achieve desktop efficiency by exploring the use of thin client technology.

GOAL – PUBLIC ACCESS & CUSTOMER SERVICE

- Increase public access to county services by providing online payment options.
- Increase public access to county services by making additional online services available to the public.

GOAL – TRANSPARENCY & ACCOUNTABILITY

- Improve the transparency and accountability of county decisions by reorganizing IT functions within the Executive branch.
- Improve the transparency and accountability of county decisions by developing technology plans for each county agency.
- Improve the transparency and accountability of county decisions with countywide asset mgmt. policies, standards, guidelines and visibility of all IT assets.

GOAL – RISK MANAGEMENT

- Reduce security risks by establishing security policies, standards, guidelines, and practices, and by implementing improved security controls.
- Reduce privacy risks by identifying and protecting sensitive information.
- Reduce business continuity risks by developing countywide IT business continuity plans and implementing improved continuity for critical business applications and communication.
- Reduce the risk of communication network obsolescence by upgrading and integrating voice, data, and video IP networks.
- 100% of IT objectives aligned with an IT primary strategic goal

Section 12: IT Service Delivery Plan Administration

This section of the IT Service Delivery Plan describes processes used by the IT Service Delivery Manager to administer the plan. These processes include:

- Plan Modification Process
- Problem Resolution Process
- Revision History Log
- Information Technology Services Delivery Agreement

Plan Modification Process

As changes are identified that must be made for business reasons, this process will allow for modifications of the agreement after it has been signed by all parties.

The "IT Services Delivery Agreement Amendment" form (see Appendix C) is the vehicle that allows the department director or IT Service Delivery Manager to modify the agreed upon IT Service Delivery Plan. Typical change which occur are: legislative changes which require modifications to County systems, rate changes, business process changes requiring additional or changed IT support, changes to other County systems or procedures that interface with DNRP, etc.

The IT Service Delivery Plan amendment process is as follows:

- The "IT Services Delivery Agreement Amendment" form in Appendix C will be used to initiate all changes.
- The requestor completes the form and submits to the IT Service Delivery Manager.
- IT Service Delivery Manager documents the changes to be made to the IT service delivery plan.
- IT Service Delivery Manager receives department/division approval including identified funding for changes to the IT Service Delivery Plan.
- IT Service Delivery Manager gets CIO approval for change to the IT Service Delivery Plan.
- Once signed the "IT Services Delivery Agreement Amendment" is approved and the necessary changes are made to the IT Service Delivery Plan.
- IT Service Delivery Manager makes an entry to the Revision History Log to record the changes.
- IT Service Delivery Manager schedules work with department and/or central IT staff for work approved in the "IT Services Delivery Agreement Amendment."

Problem Resolution Process

Issues and complaints may occasionally arise about service delivery or the need to resolve issues that have not been resolved after a reasonable period of time. The following processes are used to manage complaints and escalate issues.

Complaints

The first contact should be with the IT Service Delivery Manager. The IT Service Delivery Manager and the individual or individuals should sit down and discuss the issue and determine if a problem exists. If a problem exists which can be resolved, the IT Service Delivery Manager should be given a reasonable amount of time to resolve the problem and put in place a course of action so that the problem does not reoccur.

Escalations

If the individual or individuals do not feel that the IT Service Delivery Manager has addressed the problem or that a reasonable amount of time has elapsed without any action, the individual or individuals should escalate the problem to their supervisor. This process can also be used by the IT Service Delivery Manager to escalate issues that can't be resolved within the department, such as lack of appropriate funding or actions needed by other departments.

The Supervisor should contact the IT Service Delivery Manager and attempt to get the problem resolved. If a reasonable amount of time elapses with no action, the supervisor should escalate the problem to their director to be escalated to the Chief Information Officer for action.

Revision History Log:

A history log will be maintained to record dates and summarize the revisions to the IT Service Delivery Plan. The following format will be used.

Date Approved	Author	Scope of Change	Budget Impact
	Gary Hocking	Completed version 1.0	

Information Technology Services Delivery Agreement

The IT Service Delivery Plan will be updated annually or more often if needed to document change. A new "Information Technology Services Delivery Agreement" will be signed by the Department Director, IT Service Delivery Manager and the Chief Information Officer once an update is agreed upon.

The following page contains the form to be used.

Information Technology Services Delivery Agreement

IT Service Delivery Plan Page 102 of 192 6/7/2007

Information Technology Services Delivery Agreement

The IT Service Delivery Manager, Department Director, and the Chief Information Officer, agree that this service delivery plan will be managed by the IT Service Delivery Manager, funded by the department, and oversight provided by the Chief Information Officer.

IT Service Delivery Manager

GARY HOCKING — Print Name
Signature
6/7/2007 — Date

Department Director, certifies funds are available

Pam Bissonnette — Print Name
Signature
6/7/07 — Date

Chief Information Officer

David S. Mattingly — Print Name
Signature
6/7/07 — Date

Appendix A - IT Functions

This page defines the functions used in the IT Staffing Matrix.

CUSTOMER SERVICES

Those functions related to directly supporting users of IT systems and services.

Help Desk (Tier 1)
The activities related to providing a first point of contact for users to report problems and seek answers to questions related to their desktop PCs, network access, email, personal productivity software, and business application software. Includes initial problem resolution, triage, and problem escalation.

Tier 2 Support
The activities related to providing on-site assistance with the software and hardware that support user work functions, including PCs, handhelds and other mobile devices, peripherals, and specialized computing environments such as public kiosks.

Desktop PC Support (Tier 2)
The activities related to onsite support of the organization's network applications (e.g., calendar, email, etc.), desktop computers, mobile computing devices (e.g. laptops, PDAs, etc.), and attendant operating systems and peripherals.

PDA Support (Tier 2)
troubleshooting syncing to desktop PCs, network connectivity, and their business-specific applications.

Other Portable/Specialized Device Support (Tier 2)
The processes related to onsite support of the organization's computers which do not reside on a desktop (beyond PDAs), such as kiosks, laptops, and mobile data terminals (MDTs), along with attendant peripherals.

Personal Productivity Tool Support (Tier 2)
The processes related to providing onsite end user support concerning the use of desktop applications such as word processing, spreadsheets, presentation tools, and other organizational office productivity tools.

Business Application Support (Tier 2)
The processes related to providing end-user support (answering questions, etc.) regarding the use of business-specific software (e.g., financial management, permit management, etc.) beyond that which is provided by the first point of contact.

Training
The processes related to providing technology-related instruction to staff aimed at enhancing their skills, knowledge, and performance. Includes training requirement analysis, course design and development, and training delivery.

SYSTEM SERVICES

Those functions related to implementing, maintaining, and supporting the organization's computers, systems software, and connectivity.

Network Connectivity (WAN/LAN/wireless)
The activities related to implementing and maintaining the operational integrity of the organization's local and wide-area networks, both wired and wireless. These activities include responding to user requests for assistance, managing, maintaining, and performance monitoring related equipment, coordinating with external network service providers, and taking appropriate corrective actions as needed.

Workstation Administration
The activities related to the setup, configuration, original installation, and scheduled maintenance of end users' desktop computers and peripherals. Includes installation and configuration of PC operating systems and software, such as personal productivity tools and anti-virus applications. Includes the creation and maintenance of disk images, application of patches and updates, and all scheduled maintenance.

Server Administration (email, file & print, GIS, application, other)
The activities related to implementing and maintaining servers, including both Intel-based and mid-range devices (such as AS/400). These activities also include administration, account management, and operation of file, print, and application servers and other logical network devices; performance management; tuning; applying operating system patches and upgrades; and administering configuration data.

Mainframe Operations & Administration
The processes related to administering the operation of the host/mainframe computing platforms, managing their operating systems to keep functionality at optimal performance levels, and managing associated peripheral devices.

Data Center Operations
The processes related to the planning, administration, and operation of the facility that houses all centralized enterprise computing equipment, including production control, runbooks, backup/restore operations, and storage management. It also includes operation and maintenance of the attendant systems, including fire suppression, backup electrical power, air conditioning, etc.

Database Administration
The processes related to planning, implementing, and administering the data structures required to support the organization's applications portfolio, and to maintaining the data contained within the organization's defined data structures. Includes performance management and recovery.

Security Administration
The processes related to developing, maintaining, and administering the security plan for the organization's host processors, servers, personal computers, communication devices and networks.

Telephone Systems Support
The processes related to implementing and maintaining the operational integrity of the organization's voice network. This includes responding to user requests for assistance, administering data associated with the voice network, performance monitoring, coordinating with telecommunications providers and taking appropriate corrective actions as needed.

BUSINESS APPLICATION SERVICES
Those functions related to developing, installing, configuring, and otherwise maintaining the software needed to meet the operational, management, and reporting requirements of the organization.

Application Development
The processes related to engineering new software that meets system-wide needs, integrates third party software, and accommodates special requests. Includes major enhancements to existing applications. Development phases include design, coding, testing, and implementation.

Website Design and Maintenance
The processes related to planning, implementing, and supporting Internet and intranet applications for the organization.

Desktop Application Development and Maintenance
The processes related to providing assistance in creating and using desktop applications based on productivity tools (e.g., spreadsheets, macro development). Also includes performing upgrades and maintaining these applications.

GIS application development/maintenance
The processes related to planning, implementing, and supporting map-based applications for the organization.

All Other Development
The processes related to developing software using specialized development environments and languages, other than website, desktop application, and GIS development.

Requirements Analysis
The processes related to describing business needs, evaluating alternatives, recommending an approach to address the requirements, and creating the summary and detailed specifications for software that would meet the requirements.

Data Administration
The processes related to the analysis, development, and maintenance of the organization's data models and related data dictionaries.

Application Administration
The processes related to administering and configuring production business application software, including maintaining workflow, setting access rights for users, and updating validation tables.

Custom Application Maintenance (ARMS, IBIS, EssBase, other finance, other HR, other payroll, other budget)
The processes related to updating and making minor enhancements to existing software applications to meet new requirements and comply with external mandates. Includes writing new code, extracting data for use by other applications, and customizing reports for users.

Package Application Maintenance (PeopleSoft, MSA, Fixed Asset, other finance, other HR, other payroll, other budget)
The processes related to installing, integrating, interfacing, and testing business-specific packaged applications and their associated data, including managing vendor relationships, and providing necessary business context for integration. Includes installing new releases, minor updates, and bug fixes.

IT PLANNING
Those functions related to planning for the technology function at the organization.

Strategic Planning and Governance
The processes related to identifying and evaluating the future directions for IT application, networks, and hardware for the organization. Includes strategic planning, evaluating and prioritizing IT investments, technology research, participating in committees and task forces, and feasibility studies.

Research and Development
The processes related to evaluation and testing of current and future IT products and services, and to the deployment of pilot projects to test the viability of these technologies for the organization. Includes dissemination of relevant information to appropriate parties.

Disaster Recovery/Planning
The processes related to developing, maintaining, updating, and testing the organization's IT disaster recovery/business resumption plan, and to activating and managing the plan in the event of a disaster.

IT ADMINISTRATION

Those functions related to the oversight and administration of the technology function at the organization.

Asset Management
The processes related to managing the IT properties of the organization, include tracking inventory, software license compliance, warranty information, and performance guarantees.

IT Procurement
The processes related to acquisition of goods and services in support of all IT functions; including the development of RFP's, evaluation and selection of vendors, management of purchasing activities, and receipt of goods.

Project Management
Those processes related to the oversight and coordination of major technology initiatives.

Standards and Policies Development
Those processes related to the creation and updating of enterprise-wide IT standards and policies related to hardware, software, procurement, security, and staffing.

Administrative Support
The processes related to the provision of clerical, administrative, and related services required for the ongoing operation of the IT department.

Departmental Management
The processes related to management and oversight of the organization's technology functions: including staff evaluation, quality assurance, and budgeting. Includes the effort made by non-IT managers to manage IT staff and contactors.

Appendix B -Typical IT Functions

Central IT Functions	Dept IT Functions	Service Category	Description of Services
X	X	**Planning**	Technology Planning
x	x	**Managing Projects**	Department Projects
X		**Network Services**	King County Network Access
X			Internet Access
X			Intranet Access
X			Web Infrastructure and Standards
X			Security Services
X		**Telephone & Voicemail Service**	Basic Phone Service
X			Long Distance
X			Cell Phones
x			Pagers
x			Blackberry
x			Desk Sets
x			Miscellaneous Phone Services
x			Security Services
X		**Email Service**	Email Messaging
X	X		Active Directory Service
X			Blackberry accounts
X		**Two-way Radio Service**	Radio System Access
x			Radio Services (Time and Materials)
x	x	**Business Systems and Applications**	Application Development
x	x		Application Support
x			Mainframe Services
x	x		Server Hosting
x	x		Server Maintenance
x	x		Data Backup Services
x	x		Database Administration
X			ISSS-Central Middleware Services
x	x		Web Page Development
x	x		Web Page Content Management
x	x		Business Continuity
x	x	**Desktop Equipment**	LAN and Desktop Support
x			Desk/Laptop Equipment
x			Software Licenses
x		**Printing & Graphic Arts**	Print Shop Services
x			Copy Center Services
x			Graphics Design Services
x			Video Production/Photography Services
x			Special and Large Job Services
x		**Video Services**	I-Net Video Services
	x		Video Services

Additionally, identify and explain any typical IT function changes since the previously approved IT Service Delivery Plan

Appendix C - Examples of Equipment Categories & Types

Equipment Category and Types to be Inventoried

Network Infrastructure **Quantity**

- ATM switches
- Communication circuits
- Ethernet switches
- Hubs
- Routers
- Test equipment

Servers

- Application (Development)
- Application (Production)
- Application (Test - QA)
- Backup & restore services
- CD-ROM
- Communications
- Database (Development)
- Database (Production)
- Database (Test - QA)
- DHCP
- DNS services
- Domain controller
- Email
- File & Print
- FTP server
- Mainframe
- Network backup
- Network management
- Network monitoring
- Remote access
- SAA gateway services
- Security
- SLP directory service agent
- Specialty
- Terminal server
- Time
- Web

Workstations **Quantity**

- Desktop Windows
- Desktop Macintosh
- Laptop Windows
- Laptop Macintosh
- PDA
- Unix

Telecommunications

- Circuits
- PBX
- Voice mail

Wireless

- Bridges
- Cell phones
- LANs
- Mobile data terminals
- Pagers
- Radio systems

Peripherals

- All-in-one (scanner, printer, fax)
- Disk units
- External CD burners
- Fax machines
- Jukebox
- Modems
- Plotter
- Printers
- Scanners
- Tape units
- UPS

Miscellaneous Equipment

- Racks
- Cabinets
- Seismic equipment
- Equipment in wiring closets

Appendix D - Department IT Labor Costs

Department IT Labor Costs

Department DNRP
Date 2007 Salary & Benefit Data
Input data in white cells only

A *Person Per Year* *(ie 1, .5, .3 etc)*	B *FTE or TLT*	C *Job Title*	D *Annual Salary**	E *Annual Benefit @ 36% of Salary*	F *Total Loaded Salary*
		Directors Office IT Staff			
1.00	FTE	App Dev-Master	$94,326.75	$ 33,957.63	$128,284.38
1.00	FTE	IT SDM	$ 119,574.00	$ 43,046.64	$162,620.64
1.00	FTE	Web Dev-Sr.	$64,545.73	$ 23,236.46	$87,782.19
		GIS Center IT Staff			
1.00	FTE	IT Project Manager II	$98,908.99	$ 35,607.24	$134,516.23
1.00	FTE	GIS Specialist-Senior	$78,025.38	$ 28,089.14	$106,114.52
1.00	FTE	GIS Specialist-Senior	$70,963.57	$ 25,546.89	$96,510.46
1.00	FTE	GIS Specialist-Journey	$66,090.13	$ 23,792.45	$89,882.58
1.00	FTE	GIS Specialist-Journey	$69,300.61	$ 24,948.22	$94,248.83
1.00	FTE	GIS Specialist-Master	$85,789.60	$ 30,884.26	$116,673.86
1.00	FTE	GIS Specialist - Senior	$74,410.75	$ 26,787.87	$101,198.62
1.00	FTE	GIS Specialist-Master	$81,815.34	$ 29,453.52	$111,268.86
1.00	FTE	GIS Specialist-Journey	$76,196.85	$ 27,430.87	$103,627.72
1.00	FTE	GIS Specialist-Journey	$69,300.61	$ 24,948.22	$94,248.83
1.00	FTE	IT Supervisor I	$94,326.96	$ 33,957.71	$128,284.67
1.00	FTE	GIS Specialist-Senior	$76,196.64	$ 27,430.79	$103,627.43
1.00	FTE	IT Enterprise Manager II	114,034.54	$ 41,052.43	$155,086.97
1.00	FTE	GIS Specialist-Senior	$78,025.38	$ 28,089.14	$106,114.52
1.00	FTE	IT Project Manager I	$79,898.00	$ 28,763.28	$108,661.28
1.00	FTE	GIS Specialist-Master	$89,956.88	$ 32,384.48	$122,341.36
1.00	FTE	GIS Specialist-Senior	$78,025.38	$ 28,089.14	$106,114.52
1.00	FTE	GIS Specialist - Journey	$70,963.78	$ 25,546.96	$96,510.74
1.00	FTE	GIS Specialist-Senior	$76,196.64	$ 27,430.79	$103,627.43
1.00	FTE	GIS Specialist-Journey	$67,676.34	$ 24,363.48	$92,039.82
1.00	FTE	IT Project Manager II	$98,908.99	$ 35,607.24	$134,516.23
1.00	FTE	GIS Specialist-Senior	$74,410.75	$ 26,787.87	$101,198.62
1.00	FTE	GIS Specialist-Senior	$78,025.38	$ 28,089.14	$106,114.52
1.00	FTE	GIS Specialist-Senior	$76,196.64	$ 27,430.79	$103,627.43
1.00	FTE	LAN Administrator-Master	$78,025.38	$ 28,089.14	$106,114.52
1.00	FTE	IT Supervisor I	$92,116.13	$ 33,161.81	$125,277.94
1.00	FTE	GIS Specialist - Journey	$70,963.78	$ 25,546.96	$96,510.74
1.00	FTE	GIS Specialist-Journey	$69,300.61	$ 24,948.22	$94,248.83
1.00	FTE	GIS Specialist-Journey	$69,300.61	$ 24,948.22	$94,248.83
		Parks Division IT Staff			
1.00	FTE	IT Manager I	$85,796.26	$ 30,886.65	$116,682.91
		Parks Division IT Shadow Staff			
1.00	TLT	Comm Spec II	$54,668.43	$ 19,680.63	$74,349.06
0.10	FTE	Project Program Mgr IV	$ 8,181.56	$ 2,945.36	$11,126.91
0.20	FTE	Project Program Mgr III	$ 15,239.33	$ 5,486.16	$20,725.49
0.20	FTE	Project Program Mgr II	$14,533.29	$ 5,231.99	$19,765.28
		Solid Waste Division IT Staff			
1.00	FTE	WEB DEV-SENIOR	$72,666.67	$ 26,160.00	$98,826.67
1.00	FTE	IT MANAGER I	$98,909.20	$ 35,607.31	$134,516.51
1.00	FTE	LAN ADMIN-JOURNEY	$69,300.19	$ 24,948.07	$94,248.26
1.00	FTE	LAN ADMIN-JOURNEY	$63,028.16	$ 22,690.14	$85,718.30
1.00	FTE	IT SYS SPEC-SENIOR	$70,963.57	$ 25,546.89	$96,510.46
1.00	FTE	LAN ADMIN-JOURNEY	$60,108.26	$ 21,638.97	$81,747.23
1.00	FTE	LAN ADMIN-SENIOR	$72,666.67	$ 26,160.00	$98,826.67
1.00	FTE	APP DEV-JOURNEY	$78,025.38	$ 28,089.14	$106,114.52
1.00	FTE	DATABASE ADMIN-SR	$81,815.55	$ 29,453.60	$111,269.15
		Solid Waste Division IT Shadow Staff			
0.30	FTE	PPM III	$22,858.99	$ 8,229.24	$31,088.23
0.07	FTE	Maintenance Planner	$4,411.97	$ 1,588.31	$6,000.28
0.09	FTE	Maintenance Planner	$5,672.53	$ 2,042.11	$7,714.65
0.50	FTE	Comm Spec III	$28,663.96	$ 10,319.03	$38,982.99
		Water & Land Resources Division IT Staff			
1.00	FTE	WEB DEV-SENIOR	$74,410.75	$ 26,787.87	$101,198.62
1.00	FTE	App Developer-Sr	$81,815.55	$ 29,453.60	$111,269.15
1.00	FTE	IT MANAGER I	$98,909.20	$ 35,607.31	$134,516.51
1.00	FTE	DATABASE ADMIN-SR	$85,789.81	$ 30,884.33	$116,674.14
1.00	FTE	App Developer-Master	$96,590.62	$ 34,772.62	$131,363.24
0.60	FTE	LAN Admin-Senior	$39,653.95	$ 14,275.42	$53,929.37
1.00	FTE	App Developer-Master	$ 92,115.92	$ 33,161.73	$125,277.65
1.00	FTE	WQ Planner/PM III (in reclass to IT Project Manager I)	$ 76,196.64	$ 27,430.79	$103,627.43
1.00	FTE	Database Admin-Senior	$83,779.07	$ 30,160.47	$113,939.54
1.00	FTE	App Developer-Sr	$81,815.55	$ 29,453.60	$111,269.15
1.00	FTE	App Developer-Master	$83,778.86	$ 30,160.39	$113,939.25
1.00	FTE	LAN ADMIN-SENIOR	$78,025.38	$ 28,089.14	$106,114.52
1.00	FTE	Sys Engineer-Senior	$74,410.75	$ 26,787.87	$101,198.62
1.00	FTE	LAN ADMIN-JOURNEY	$69,300.19	$ 24,948.07	$94,248.26
1.00	FTE	IT Supervisor II	$108,751.97	$ 39,150.71	$147,902.68
1.00	FTE	App Developer-Sr	$70,963.78	$ 25,546.96	$96,510.74
1.00	FTE	App Developer-Sr	$76,196.64	$ 27,430.79	$103,627.43
1.00	FTE	Database Admin-Journey	$72,666.88	$ 26,160.08	$98,826.96
1.00	FTE	App Developer-Sr	$83,779.07	$ 30,160.47	$113,939.54
1.00	FTE	App Developer-Sr	$81,815.55	$ 29,453.60	$111,269.15
1.00	FTE	IT class pending appeal	$94,326.96	$ 33,957.71	$128,284.67
		Water & Land Resources Division IT Shadow Staff			
0.75	FTE	WQ Planner/PM III	$ 64,429.72	$ 23,194.70	$87,624.41
0.20	FTE	Comm Spec III	$14,192.67	$ 5,109.36	$19,302.03
0.10	FTE	Comm Spec III	$7,096.34	$ 2,554.68	$9,651.02
0.50	FTE	Comm Spec II	$32,270.58	$ 11,617.41	$43,887.98
0.20	FTE	Comm Spec III	$14,192.67	$ 5,109.36	$19,302.03
		Wastewater Treatment Division IT Staff			
1.00	FTE	LAN Admin-Journey	$64,540.74	$ 23,234.67	$87,775.41
1.00	FTE	LAN Admin-Senior	$70,963.57	$ 25,546.89	$96,510.46
1.00	FTE	LAN Admin-Journey	$60,108.26	$ 21,638.97	$81,747.23
1.00	FTE	IT Manager I	$106,203.14	$ 38,233.13	$144,436.27
1.00	FTE	LAN Admin-Senior	$72,666.67	$ 26,160.00	$98,826.67
1.00	FTE	App Developer-Senior	$83,779.07	$ 30,160.47	$113,939.54
1.00	FTE	IT Project Manager II	$89,957.09	$ 32,384.55	$122,341.64
1.00	FTE	LAN Admin-Senior	$70,963.57	$ 25,546.89	$96,510.46
1.00	FTE	LAN Admin-Senior	$67,676.13	$ 24,363.41	$92,039.54
1.00	FTE	Database Admin-Senior	$89,957.09	$ 32,384.55	$122,341.64
1.00	FTE	LAN Admin-Senior	$76,196.64	$ 27,430.79	$103,627.43
1.00	FTE	LAN Admin-Senior	$72,196.64	$ 25,990.79	$98,187.43
		Wastewater Treatment Division IT Shadow Staff			
0.10	FTE	Wastewater Engr VI	10630.685	$ 3,827.05	$14,457.73
0.20	FTE	Comm. Spec. III	$13,860.04	$ 4,989.61	$18,849.65
0.20	FTE	Water Quality Plnr/PrjctMgrIII	$16,772.19	$ 6,037.99	$22,810.18
0.30	FTE	Comm. Spec. III	$21,799.94	$ 7,847.98	$29,647.92
0.76	FTE	Engineer IV	$73,480.70	$ 26,453.05	$99,933.75
0.44	FTE	Engineer IV	$42,541.46	$ 15,314.93	$57,856.38
0.46	FTE	Engineer III	$37,635.25	$ 13,548.69	$51,183.94
0.55	FTE	Engineer III	$39,966.78	$ 14,388.04	$54,354.83
0.45	FTE	Engineer II	$34,321.86	$ 12,355.87	$46,677.73
82.27			$6,542,799.67	$2,355,407.88	$8,898,207.55

* Annual Salary includes 2.0% COLA for 2007and assume 40-hr work week.

Appendix E - Department IT Budget

DNRP Department IT Budget Rollup

	Department	DNRP
	Date	Jan-07
Input data in white cells only		

Department Costs	**Account**	**2007**
IT - Salaries, Wages & Benefits	511XX	
Office Supplies for IT Personnel	52110	$525
Software Under $1000/Unit	52190	$114,457
Minor PC Upgrades/Repairs	52191	$120,500
EDP Supplies	52212	$269,060
Equipment O&M Accounts	52220	$0
Consulting Services	53104	$65,000
Other Contract/Prof Services	53105	$410,664
EDP & Microfiche/Film Svc	53106	$161,634
Consulting IT Services	53127	$14,500
Subcontract IT Services	53179	$0
Travel for IT Personnel	53310	$4,500
Rent-EDP Equipment	53740	$4,078
Printing for Department IT	53806	$0
Training	53810	$75,500
Training-IT	53813	$34,810
Hardware/Software	56740	$71,716
EDP Hardware	56741	$152,100
EDP Software	56742	$227,785
Communication Equipment for IT	56780	$27,751
Capital IT Lease - Principal	57303	$0
Capital IT Lease - Interest	57304	$0
GIS O&M	55026	$413,150
Telecomm	52291, 53210, 53211, 53212, 53631, 55032, 56780, 55031	$1,185,287
ITS	55021, 55023, 5025, 55253, 58053, 58153	$2,205,428
Radio Services	55350, 55351, 55352, 55353	$1,235,725
Other (specify)		$230,066
Other (specify)		$257,646
Other (specify)		$24,991
Other (specify)		$33,189
Other (specify)		$7,200
Total IT Costs		**$7,347,262**

Appendix F – Equipment Replacement Plans

Director's Office:

Budget Year:	2007
Department:	DNRP
Fund:	
Contact Name:	Gary Hocking

Equipment Replacement Financial Plan

	Previous Years	2006	2007	2008	2009	2010	2011	2012
Budget		$40,000	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000
Actuals		$41,184						
Annual Balance		($1,184)	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000
LTD Balance		($1,184)	$38,816	$78,816	$118,816	$158,816	$198,816	$238,816
Need		$41,184	$40,000					
Annual Overage		($1,184)	$0	$40,000	$40,000	$40,000	$40,000	$40,000
LTD Overage		($1,184)	($1,184)	$38,816	$78,816	$118,816	$158,816	$198,816

GIS Center:

Budget Year:	2007
Department:	DNRP
Fund:	GIS Center
Contact Name:	Gary Hocking

Equipment Replacement Financial Plan

	Previous Years	2006	2007	2008	2009	2010	2011	2012
Budget		$80,500	$82,082	$75,290	$71,900	$66,990	$82,282	$60,950
Actuals		$77,985						
Annual Balance		$2,515	$82,082	$75,290	$71,900	$66,990	$82,282	$60,950
LTD Balance	$0	$2,515	$84,597	$159,887	$231,787	$298,777	$381,059	$442,009
Need		$77,985	$0	$0	$0	$0	$0	$0
Annual Overage		$2,515	$82,082	$75,290	$71,900	$66,990	$82,282	$60,950
LTD Overage		$2,515	$84,597	$159,887	$231,787	$298,777	$381,059	$442,009

Parks Division:

Budget Year:	2007
Department:	DNRP, Parks
Fund:	1451
Contact Name:	Katy Terry

Equipment Replacement Financial Plan

	Previous Years	2003	2004	2005	2006	2007	2008	2009
Budget	$0	$0	$0	$68,000	$81,700	$71,716	$30,400	$50,600
Actuals	$0	$0		$63,850	$85,977			
Annual Balance		$0	$0	$4,150	($4,277)	$71,716	$30,400	$50,600
LTD Balance	$0	$0	$0	$4,150	($127)	$71,589	$101,989	$152,589
Need		$0	$0	$0	$0	$0	$0	$0
Annual Overage		$0	$0	$68,000	$81,700	$71,716	$30,400	$50,600
LTD Overage		$0	$0	$68,000	$149,700	$221,416	$251,816	$302,416

Note: Parks Division levy funding only extends through 2007 - 2008 & 2009 are projections based upon status quo funding.

Solid Waste Division:

Budget Year:	2007
Department:	DNRP-Solid Waste Division
Fund:	4040
Contact Name:	John Crum

Equipment Replacement Financial Plan

	Previous Years		2003	2004	2005	2006	2007	2008	2009
Budget		$0	$463,500	$129,800	$63,350	$41,861	$82,800	$0	$0
Actuals		$0	$415,221	$125,671	$38,006	$46,887			
Encumbered 12/31					$50,235				
Annual Balance			$48,279	$4,129	$25,344	($5,026)	$82,800	$0	$0
LTD Balance	$0		$48,279	$52,408	$77,752	$72,726	$155,526	$155,526	$155,526
Need			$0	$0	$0	$0	$0	$0	$0
Annual Overage			$463,500	$129,800	$63,350	$41,861	$82,800	$0	$0
LTD Overage			$463,500	$593,300	$656,650	$698,511	$781,311	$781,311	$781,311

Wastewater Treatment Division:
WTD-ISS:

Budget Year:	2007
Department:	DNRP-WTD
Fund:	WTD
Contact Name:	John Buffo - KS

Equipment Replacement Financial Plan

	Previous Years 2006	2007	2008	2009	2010	20011	2012	2013
Budget	$242,800	$235,600	$269,000	$92,400	$134,000	$27,400	$74,900	
Actuals (IBIS)	$148,515							
New Equip - not in Replacement Plan	$128,500 (IBIS)							
Annual Balance	$94,285	$235,600	$269,000	$92,400	$134,000	$27,400	$74,900	#VALUE!
LTD Balance	$148,515	$384,115	$653,115	$745,515	$879,515	$906,915	$981,815	#VALUE!
Need		$0	$0	$0	$0	$0	$0	$0
Annual Overage		$235,600	$269,000	$92,400	$134,000	$27,400	$74,900	#VALUE!
LTD Overage		$235,600	$504,600	$597,000	$731,000	$758,400	$833,300	#VALUE!

WTD-Renton Treatment Plant:

Budget Year:	2007
Department:	DNRP-WTD
Fund:	
Contact Name:	BONNER - RTP

Equipment Replacement Financial Plan

	Previous Years 2006	2007	2008	2009	2010	2011	2012	2013
Budget	$27,000	$58,500	$88,000	$40,500	$42,010	$104,500	$0	
Actuals (IBIS)	$25,391							
Annual Balance	$1,609	$58,500	$88,000	$40,500	$42,010	$104,500	$0.00	
LTD Balance	$25,391	$83,891	$171,891	$212,391	$254,401	$358,901	$358,901	
Need		$0	$0	$0	$0	$0	$0	
Annual Overage		$58,500	$88,000	$40,500	$42,010	$104,500	$0	
LTD Overage		$58,500	$146,500	$187,000	$229,010	$333,510	$333,510	

WTD-Westpoint Treatment Plant:

Budget Year:	2007	**Equipment Replacement Financial Plan**
Department:	DNRP-WTD	
Fund:		
Contact Name:	R Blanke - WTP	

	Previous Years 2006	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Budget	$55,000	$32,700	$90,900	$32,000	$80,500	$71,000	$0	$0
Actuals (IBIS)	$31,555	$0	$0	$0	$0	$0	$0	
New Equip - not in Replacement Plan	$9,941							
Annual Balance	$23,445	$32,700	$90,900	$32,000	$80,500	$71,000	$0	$0
LTD Balance	$31,555	$64,255	$155,155	$187,155	$267,655	$338,655	$338,655	$338,655
Need		$0	$0	$0	$0	$0	$0	$0
Annual Overage		$32,700	$90,900	$32,000	$80,500	$71,000	$0	$0
LTD Overage		$32,700	$123,600	$155,600	$236,100	$307,100	$307,100	$307,100

WTD-Industrial Waste Unit:

Budget Year:	2006
Department:	DNRP-WTD
Fund:	WTD
Contact Name:	E. Pacardo - IW

Equipment Replacement Financial Plan

	Previous Years 2006	2006	2007	2008	2009	2010	2011	2012
Budget	$10,801	$10,801	$26,709	$13,242	$9,937	$10,198	$0	$0
Actuals (IBIS)	$13,003							
Annual Balance	($2,202)	$10,801	$26,709	$13,242	$9,937	$10,198	$0	$0
LTD Balance	$13,003	$23,804	$50,514	$63,756	$73,693	$83,891	$83,891	$83,891
Need		$0	$0	$0	$0	$0	$0	$0
Annual Overage		$10,801	$26,709	$13,242	$9,937	$10,198	$0	$0
LTD Overage		$10,801	$37,511	$50,753	$60,690	$70,888	$70,888	$70,888

Water & Land Resources Division:
WLRD-King Street:

Budget Year:	2007
Division:	DNRP-WLRD
Fund:	
Contact Name:	Sue Delaat

Equipment Replacement Financial Plan

	Previous Years	2006	2007	2008	2009	2010	2011	2012
Budget		$203,104	$273,447	$0	$0	$0	$0	$0
Actuals		$127,700						
Annual Balance		$75,404	$273,447	$0	$0	$0	$0	$0
LTD Balance		$75,404	$348,851	$348,851	$348,851	$348,851	$348,851	$348,851
Need		$39,651	$40,000					
Annual Overage		$163,453	$233,447	$0	$0	$0	$0	$0
LTD Overage		$163,453	$396,900	$396,900	$396,900	$396,900	$396,900	$396,900

1/ This includes only the following accounts: 52212 EDP Supplies; 53630 Repair Maint Equip; 56741 EDP Hardware; 56742 EDP
2/ This reflects only replacement costs for hardware replacement.
3 / Annual balance does not reflect under expenditure; this reflects amounts spent on supplies and services related to Division IT

WLRD-Environmental Lab:

Budget Year:	2004
Department:	Natural Resources/P
Fund:	Wastewater
Contact Name:	Kate Leone (684-231

Equipment Replacement Financial Plan

	Previous Years	2003	2004	2005	2006	2007	2008	2009
Budget		$29,642	32,373.33	72,594.15	32,980.87	67,480.01	110,967.12	43,935.88
Actuals	$0	$29,642	$26,562.95	$34,737.71	$27,530.87			
Annual Balance		$0	$5,810	$37,856	$5,450	$67,480	$110,967	$43,936
LTD Balance	$0	$0	$5,810	$43,667	$49,117	$116,597	$227,564	$271,500
Need		$0	$0	$0	$0	$0	$0	$0
Annual Overage		$29,642	$32,373	$72,594	$32,981	$67,480	$110,967	$43,936
LTD Overage		$29,642	$62,015	$134,609	$167,590	$235,070	$346,037	$389,973

Appendix G – Updated TCO Staffing Matrix

Instructions for Completing the Operations & Maintenance IT Staffing Matrix

Dept./Agency Name:	DNRP
Completed by:	Gary Hocking
Phone:	296-3791
Email:	

This workbook will be used to provide an approximation of the County's 2003 IT labor costs across a specified set of IT functions. The information will be used to support the quantified business case project, and to assist in developing a total cost of technology for the County. It collects detailed information about all O & M (non-capital) IT labor in your department/agency. It provides worksheets representing your department/agency's IT division/unit, IT staff located in the business divisions/units within your agency, and "shadow" staff (staff that are not IT-titled, but spend at least 10% of their time performing IT support activities). For each worksheet, you will need to identify the appropriate staff (as of 2/1/04), allocate their time across the indicated IT activities, and provide their salary or hourly pay.

Data for your IT division and IT staff in the business units should be fairly easy to identify – they all have IT-related job titles. If your department/agency does not have an IT division/unit, or has no business unit IT staff, leave the corresponding worksheet empty. Do not include data entry staff. We define contractors as personnel utilized for staff augmentation, who are typically paid by the hour. Please include both unbudgeted and budgeted labor.

IT shadow staff may require a little more work to uncover. We define shadow staff as individuals who do not have IT-related job titles, but who spend at least 10% of their time performing one or more IT functions **in support of other staff.** For example, a finance analyst who spends 15% of her time developing spreadsheets for her own use is *not* shadow staff. On the other hand, a maintenance supervisor who spends 20% of her time administering a remote network *is* IT shadow staff, regardless of whether her job description includes this work.

Each staff member will occupy one column on the appropriate workbook tab. Fill in the approximate FTE level devoted by the staff member to whatever IT functions apply, using the definitions on tab #6 for guidance. Do not include O & M IT staff working on capital projects. This cost will be captured in the IT Inventory and Expenditure workbook. **Specifically label individuals that are not regular County employees as contractors, true temps, or term-limited temps.** In addition, please capture any administrative labor required to support IT in the "IT Administration" section of each worksheet, regardless of whether the individuals providing the support are IT-titled staff. Include budgeted vacant positions (substituting the word "vacant" for the employee name), estimating the FTE level to the best of your ability. **The FTE level is equivalent to the percentage of time, over the course of the last year, that this person spent on a particular function (e.g., if an individual spends 25% of his or her time on a given activity, enter .25, etc.). The total (i.e., the bottom row) FTE level may not add up to 1.00, but will equal:**

- 1.00 for full-time IT staff
- The actual FTE level for that position for part-time IT staff
- The total percentage of time devoted to IT functions for shadow staff
- Estimated annualized effort for contract staff (e.g., server administration performed by a contractor for 4 hours per week would be .1 FTE)

For each staff member, enter the annualized hourly wages or salary. To approximate the 2003 IT labor cost, use the 2004 PONS data, subtracting the 2004 COLA increase for employees who received it. If the 2004 compensation reflects a COLA increase over 2003, but you do not know the exact amount, use the County-wide average of 2.03% to calculate the reduction. Do not include benefits, overhead, etc. More specifically:

- **For full-time County staff** use the actual 2004 salary or annualized hourly pay (adjusted to remove the 2004 COLA) for that position, even if they do not devote 100% of their effort to IT functions (e.g., shadow staff, etc.)
- **For part-time County staff,** use this cost **adjusted as if they were full-time** – e.g., multiply a half-time employee by 2
- **For contract staff,** multiply their hourly rate by 1850

Some inaccuracy is acceptable. Our goal is to better quantify the County's cost of IT services, not to balance with accounting systems. Note: under the **Business Application Services** area we have provided two blank rows under "custom application maintenance" and "package application maintenance," respectively. Please enter the names of up to two of the primary applications specific to your department/agency for each category, and fill in the approximate FTE level as appropriate. These should represent the major applications supporting your business processes. If you have questions, contact Dave Robison at Pacific Technologies: (425) 881-3991 or DRobison@pticonsulting.com.

The following work sheet illustrates how to fill out the IT staffing matrix. Definitions for each IT activity appear on tab #6, and as pop-ups when the cursor is over the appropriate cell on the worksheets.

www.pticonsulting.com

Appendix H – GIS O&M Plan and Priority Initiatives

This appendix contains GIS O&M details for the King County GIS Center and DNRP GIS matrix services which are excerpted from the 2007 King County GIS Operations & Maintenance Plan. Also included here is a listing of the 2007 GIS Priority Initiatives. Both of these documents were developed by the King County GIS Technical Committee and approved by the King County GIS Oversight Committee.King County GIS Center

Agency GIS Overview, Priorities, and Goals

- The King County GIS Center's mission is to deliver efficient, high-quality GIS technology solutions to King County agencies, the public, and our regional partners, in order to meet the business needs of King County and the communities we serve. To carry out this mission the KCGIS Center works with the KCGIS governance committees, and King County departments and their GIS programs to provide enterprise GIS services, on-demand GIS client services, and matrix GIS staff services. The core value of the KCGIS Center is to provide services that are accurate, consistent, accessible, affordable, and comprehensive.

- The KCGIS Center is an internal service fund administratively assigned to the Director's Office of the Department of Natural Resources and Parks (DNRP). The KCGIS Center Manager handles daily operation and strategic direction of the KCGIS Center and is a member of the KCGIS Technical Committee. The KCGIS Center Manager reports to the DNRP IT Service Delivery Manager. The DNRP IT Service Delivery Manager monitors the KCGIS Center on behalf of the DNRP Director and serves as permanent chair of the KCGIS Oversight Committee.

- The KCGIS Center has a total of 31 staff positions organized into three business units; Enterprise Operations, Client Services, and Matrix Staff Services. This staffing level is unchanged from 2006; however the FTE allocations budgeted to two of the business units change in 2007. For details of these staffing changes see Section 4.1.4 of this document.

- ***Enterprise Operations –*** The Enterprise Operations Unit provides a range of management, administrative, and technical services to support the KCGIS program. These services in 2007 are supported by 12.60 FTEs. The management and administrative functions of the Enterprise Operations Unit are primarily carried out by the KCGIS Center Manager, the Marketing & Finance Manager, the Enterprise Services Manager, and the Office Manager. Services provided by this group include staff management, program development and planning, budgeting, financial control, marketing, administrative and clerical support, enterprise coordination, contract management, and external data acquisition. Financial control includes management of the KCGIS internal service fund, annual budget development in coordination with the KCGIS governance committees, billing for annual cost allocation shares, financial expenditure controls, and financial reporting. The marketing efforts promote the use of KCGIS products and services and further the County Executive's vision of the KCGIS Center as a regional service provider to local municipalities, utilities, and other public and private agencies. The technical functions of the Enterprise Operations Unit are provided by GIS analysts and project managers and cover a broad spectrum including enterprise data coordination, spatial data warehousing, RDBMS administration, website management, application development, system administration, and infrastructure management. Other technical services of this group include administration and publishing of GIS metadata, verification of data posted to the KCGIS Spatial Data Warehouse, and data integration and quality control for the cadastral base

framework maintenance process. The KCGIS Center Manager oversees day-to-day operation of the Enterprise Operations Unit and directs long-term and strategic planning. The DNRP IT Service Delivery Manager provides technical advice to the Enterprise Operations Unit and coordinates implementation and maintenance of the KCGIS Center's technology infrastructure within the larger framework of the county's information systems.

- ***Client Services –*** The Client Services Unit offers a full range of on-demand GIS consulting and project services on a cost-reimbursable basis to King County business units and to external customers such as local agencies, cities, and citizens. The hourly labor rates for 2007 are based on a tiered pricing structure. GIS analyst services are $85, GIS programming, advanced cartography, and production coordination services are $90, and GIS consulting and project management services are $95. The Client Services Manager supervises the unit and initiates and coordinates service delivery. In 2007 the Client Services Unit has a budgeted allocation of 5.00 FTEs. This relatively small FTE count is offset by the ability of the Client Services Manager to draw upon the highly-specialized skills of staff throughout the KCGIS Center. This expands the level of talent and increases flexibility for responding to projects far beyond the limits of what would typically be available from a staff of five. In 2006, twenty different KCGIS Center staff members worked on at least one Client Services project. For additional details on the services provided by the Client Services Unit see Appendix B: KCGIS Center Services.
- ***Matrix Staff Services –*** The Matrix Staff Services Unit provides a dedicated level of GIS staff support to specific King County work programs through an annual contractual agreement. In 2007 13.40 FTEs will be allocated to seven different work programs in three departments. Program managers are assigned to oversee each work program and these managers coordinate as peers to draw support for their programs from a pool of KCGIS Center staff resources. Matrix Staff Services Unit personnel are generally assigned to a single work group and thus report to a specific program manager for most or all of their projects. However, the matrixed staffing strategy allows program managers to share the pooled resource to optimize response to project demands. Managers for four of the programs are employees of their respective divisions and are not funded as KCGIS Center staff. These programs include Wastewater Treatment, Water and Land Resources, Transit, and Assessments. Work programs in Parks and Recreation, Solid Waste, and Road Services are overseen by program managers from the KCGIS Center. The KCGIS Center Manager is the administrative manager for the Matrix Staff Services Unit. As such the KCGIS Center Manager is responsible for supplying and maintaining the matrix resource (namely the GIS staff). Specific duties of the administrative manager include establishing the technical and quality standards for the GIS services, ensuring matrix personnel have the necessary training and resources to perform quality work, and balancing staff allocations across the divisions to meet work plan requirements. The GIS program managers from DNRP, DOT, Assessments, and the KCGIS Center have responsibility to develop and execute their respective work plans, and coordinate with the KCGIS Center Manager to obtain the appropriate GIS staff resources to meet their program objectives.

Planned Project Activity and New Projects

Name	**GIS Software Migration – Project Management**
Description	The GIS Software Migration closed at the end of 2006. A post mortem document will be submitted to the KCGIS Technical Committee during the first quarter of 2007, and will include the fates of goals, and the

	identification of ongoing work. In general, many of the business practices and workgroups that were created to facilitate the migration are also effective in the post-migration environment, such as: • The Software Migration Workgroup will reform in 2007 as the Data Coordination Group, and meet on a regular basis. Their focus will be the identification and resolution of common data issues, data accuracy, ongoing metadata enhancement, and other topics and issues as warranted. • The Training Workgroup will continue to develop training curriculum that is useful to the KCGIS community. This group will be guided by, and report to the KCGIS Technical Committee. • The Licensing Workgroup will continue to meet until it has met its goal of creating a viable enterprise software licensing coordination and management environment. • The GIS Application Developers Group will continue to guide the development of requirements and design of the various enterprise applications identified as necessary in the post-migration environment.
Interdependencies	The GIS Software Migration was an enterprise-wide initiative, and relied heavily on the active participation of KCGIS agencies. While the migration effort has come to a close, their continued participation in the Data Coordination group will ensure that data issues are resolved promptly and efficiently.
Status	Closing.
Target	Q1 2007
Activity	▪ Complete post mortem document and submit to KCGIS Technical Committee.

Name	**GIS Software License Consolidation**
Description	This project involves a proposal for all concurrent-use ArcGIS 9.x licenses to be consolidated, managed, and accessed from a central enterprise repository to be administered by the KCGIS Center. This includes all licenses currently managed by the KCGIS Center and those held by all King County agencies. The license consolidation proposal is detailed in a document prepared November 22, 2005 by the Software Migration Licensing Subgroup.
Interdependencies	Consensus of KCGIS agencies to proceed with pooled licensing concept.
Status	In progress
Target	2007

Activity	▪ Continue to monitor license usage to measure adequacy of existing licenses to meet needs of agencies in a consolidated license environment. ▪ Work with county agencies to address and mitigate their concerns with the consolidation proposal in attempt to achieve 100% concurrence. ▪ Determine the most cost-saving and efficient licensing scenario and implement it.

Name	**GIS Training Curriculum Development**
Description	The goal of this project is to create a training program for ongoing and relevant GIS education, which will empower current and potential GIS users as proactive spatial thinkers, who can support better decision-making, and deliver superior public service using GIS tools. This goal is achieved by developing training opportunities that are modular, customized, and geared toward specific categories of users within the GIS community. The KCGIS training program and curriculum is fully described in an annual update (see www.metrokc/gis/kb/Content/TrainingPlan.htm).
Interdependencies	Active participation and commitment by knowledgeable GIS staff with needed expertise to help with course development.
Status	In process
Target	2008
Activity	▪ Complete annual update of training plan in first quarter of 2007 and submit to KCGIS Technical Committee for approval. ▪ Continue development of course material and integrate new courses into training calendar. ▪ Identify next round of new courses and continue iterations of course development until all courses in curriculum are completed.

Name	**Data Coordination Group**
Description	Transitioning from the Software Migration data migration effort, data stewards will continue to meet periodically. This will provide a forum to resolve specific data set issues and to address cross-agency database configuration topics, such as shared coded value domains, maintaining consistency across the enterprise SDW, and any old business remaining from the All but Cadastral Data Conversion workgroup. Established configuration management tools and protocols will be updated as necessary to ensure a continued best practices effort. New protocols will be documented, stored in the Resources folder, and cataloged for future reference by data stewards.

	The group will look for opportunities to maximize the effectiveness of the organized and synchronized database that is a result of the data migration project. This will include further optimization of existing data layers, elevating agency-level data to the enterprise, dealing with data redundancy issues, and further enhancing enterprise metadata. The group will support on-going or newly defined Priority Initiative data projects, as well as develop option summaries for potential cross-agency data development projects to be reviewed by the Technical Committee. This last effort will be addressed as part of a broader 'data gap' analysis to be undertaken by the group. Individual agency steward participation will vary depending on the specific agenda topic(s). Key non-GIS stakeholders will also be invited when necessary.
Interdependencies	Coordination and scheduling with KC GIS agency data stewards and other key stakeholders (users, developers, DBAs), as necessary.
Status	In progress.
Target	End of 2007, then on-going as need dictates.
Activity	▪ Initial brainstorming to develop and prioritize a 'wish list' of data enhancement and data development needs, cross-referenced to the 2007 O&M plan. The group will look for 'low-hanging fruit' projects to serve as targets for establishing the mechanisms for larger and longer-term efforts. ▪ Look for specific data sets that might effectively share a common coded value domain or relationship class. This will expand the enterprise-wide knowledge and experience with these database objects, and lead to procedures for optimizing data through cross-dataset dependencies. Initially, the item-frequency data dictionary will be used to define potential candidate layers and items. ▪ Address specific opportunities to meet multiple agency data requirements by sharing common geometry among multiple children layers, each with a different, supporting business table dependency. A simple example would be Roads Services detention ponds data set sharing WTRBDY geometry, but delivered as a child layer with attached Roads business-specific attributes. ▪ Evaluate the needs and requirements for publishing Spatial and Tabular View data (currently maintained only in the SDE GDB) as a stand-alone shapefile and dbf table, respectively. ▪ Work on new data set issues as determined by the group, or forwarded by the GIS Technical Committee

Name	**Non-KCGIS Data Refresh Process**

Description	The original scope of this task involved expanding the current data management/storage design for non-KCGIS data. This would have included adding procedures for housing and delivering data provided in CAD-based format, Personal GDBs, or other non-ESRI formats. However, after further review, it appears that adhering to a standard shapefile format storage model for non-KCGIS data will provide the most efficient access to the largest group of users. The relatively slow adoption of ArcGIS software across the enterprise limits the usefulness of delivering data in Personal GDBs, while an improved skill set and expanded toolset make wholesale backend conversion and delivery of non-shapefile formats more reasonable. This task is now realigned to address three main issue areas regarding non-KCGIS data: • Improve the workflow and processes so that data delivered as Personal GDB or in non-shapefile format are easily and automatically converted to shapefile format for delivery to the SDW, with minimal manual quality control. • Develop a workflow and tracking mechanism for: o Better evaluating the value of individual non-KCGIS data sets to determine the highest/best need for posting. o Cross-referencing data sets to high-grade those better suited to KCGIS needs, including thematic realignments to improve data associations. o Reviewing non-KCGIS data for 'stale' or out-dated data to be removed from the SDW, including dealing with sources that exhibit less-than-persistent naming conventions. • Investigate those opportunities for integrating non-KCGIS source data into existing KC-maintained data to eliminate redundancy, improve overall data quality, and expand the extent of selected data sets for those enterprise needs requiring data outside the county's boundary.
Interdependencies	None
Status	In progress.
Target	Mid 2007 for developing improved workflow/processes for standard handling of non-shapefile data deliveries to the SDW. Q3 and Q4 2007 for implementation of workflow/tracking procedures that allow cross-referencing and high-grading of existing layers, followed by cleanup.
Activity	▪ Develop Python routines to query and export selected Personal GDB feature classes to shapefile format, including associated dbf tables. ▪ If need demands, develop a parallel workflow for processing CAD-

	formatted data into shapefile format. ▪ Develop scripted routine(s) for cross-referencing and identifying misplaced/mis-grouped data sets. Include analysis to determine badly outdated data sets, and slate them for removal. Make removed data accessible through a web-based interface similar to the current interface used for accessing inventoried, but non-warehoused data. ▪ Document current examples where KC-maintained data has been significantly expanded or enhanced with non-KCGIS data (e.g., city_3co). Evaluate other possibilities where stewards may be able to integrate and maintain value-added data, thus eliminating the need to house the non-KCGIS base data.

Name	**KCGIS Business Continuity Data and Application Replication**
Description	The KCGIS Center production server housing the Spatial Data Warehouse, and the infrastructure supporting the *iMAP* and *Parcel Viewer* Internet mapping applications were identified as critical applications by the King County continuity of business study. As a result, these systems must be fully replicated at an alternate data center. The purchase and installation of these systems will be completed in 2007.
Interdependencies	Establishment of alternate data center by ITS.
Status	Not started.
Target	2007
Activity	▪ Upgrade KCGIS Center production servers to Microsoft SQL Server 2005 and ESRI ArcServer 9.2 (to enable the database mirroring necessary to replicate data to the Alternate Data Center). ▪ Acquire, install, and configure the backup systems to be located at the new Alternate Data Center (one Web server and one application server). ▪ Configure, test and ongoing operation of data mirroring between KCGIS Center production systems at King Street Center and backup systems at the Alternate Data Center.

Name	**E911 Address Maintenance and Data Distribution Application (AMANDA 911)**
Description	Phase I: Develop an ArcGIS Server based web interface to allow addressing authorities to easily input their address additions, deletions, and updates. This will allow King County to maintain a single authoritative countywide address data resource to serve especially E-911 needs, but also other internal and external needs. During this phase, the participants will include King County departments and three outside addressing authorities.

	Phase II: After the application is initially deployed and in use with the pilot agencies, it will undergo additional refinements based on user feedback. Additional outside agencies will be assisted with implementing the application and using the resulting data layer for their addressing needs.
Interdependencies	Requires the coordination of an interdepartmental development team during Phase I. All phases will require the participation and coordination of both internal King County departments and external addressing authorities in using the web application and address data layer.
Status	In progress.
Target	Phase I: Q2 2007 Phase II: Q4 2007
Activity	▪ Phase I: ▫ ArcGIS Server and Stratus 4300 server implementation ▫ Develop and refine functional requirements ▫ Web application design and development ▫ Prototype testing and debugging with the assistance of feedback from the pilot agencies ▫ Implementation and deployment of first version of the web application ▫ Preparation of grant required summary of the project and posting of project code on ESRI's web site. ▪ Phase II: ▫ User satisfaction survey of the web application and address data layer. ▫ Continued refinement of the web application guided by the user survey feedback. ▫ Implementation of the web application for maintaining address data by at least six agencies

Data Enhancement and Development

Name	**Cadastral Migration**
Description	The KCGIS Center and Department of Assessments are leading the effort to migrate cadastral data to the latest GIS software and database platform. This effort has resulted in the development and implementation of a new

	cadastral data model that takes advantage of ESRI's SDE Enterprise Geodatabase (on SQL Server) and ArcGIS software. The new cadastral geodatabase will continue to meet the business process requirements of the Department of Assessments as well as the cartographic and analysis needs for parcel data users across the county. The new cadastral geodatabase incorporates all of the cadastral features of the old RECDNET coverage model as well as new additional features and functionality. The hierarchal feature type coding of RECDNET data provided the means to migrate to the new model. Limitations of the previous RECDNET model and existing data errors make data cleanup necessary in order to realize all features of the new model schema. The functionality of geodatabase topology now allows the enforcement of topologic relationships between specific features as well as feature subtypes, providing a powerful tool to identify errors within the model schema. The cadastral geodatabase conversion completed in 2006 provided the necessary cadastral data and capabilities to successfully migrate data, software, and platform on the schedule required. The cadastral migration project in 2007 will focus on the tasks required to enhance existing data, refine newly created cadastral features, and take full advantage of the new geodatabase model.
Interdependencies	In 2007 the Cadastral Migration effort will work towards sharing cadastral geometry with the City of Seattle and consider similar opportunities with other cities. Training, documentation, and interface/tool development activities may be dependent on the release of ArcGIS 9.2 by ESRI.
Status	In progress
Target	Q4 2007
Activity	▪ Topology Error cleanup (primary and secondary rule sets). The new cadastral database design implements a robust set of topology rules to find errors or potential errors. The topology rules have been grouped and errors from each set will be resolved in order of importance. Primary topology errors will be resolved immediately following conversion in 2006 and secondary error resolution will be ongoing in 2007. ▪ Resolve Annotation, Hook, and Block Symbol creation and placement issues that remain post conversion. ▪ Cleanup all persistent tile edge issues within the new Parcel polygon geometry. ▪ Create new "stacking" parcel polygon geometry for undivided interest and vertical property within the Multiple subtype and perform feature class-wide PIN QA checks for completeness. ▪ Perform QC and cleanup on the newly created Encumbrance and

	Conveyance polygon feature classes. This post-conversion cleanup will utilize geodatabase topology rules to assist in the refinement of the polygon geometries produced by the data conversion process. ▪ Training and Documentation. The migration of client software (ArcMap) and new geodatabase design completed in 2006 will require additional training activities in 2007. Maintenance workflow and procedure documentation will also be updated as needed. ▪ Cadastral Metadata. Metadata will be completed for core cadastral layers upon conversion, with metadata for all layers and additional detail review completed in 2007. ▪ ESRI software upgrade (client/server) to ArcGIS 9.2 and SDE 9.2.

Name	**City Boundary**
Description	Coordinate the replacement of redundant city layers maintained by the Department of Assessments and DDES with one consolidated layer that retains all functionality of the existing independent layers. Assist in the migration of the consolidated city layer and child data layers into an SDE enterprise geodatabase. This project will provide law enforcement and other public safety entities a logical geometry-based method of assigning portions of major water bodies to adjoining jurisdictional areas where jurisdiction is not superseded by existing legal code. It will also remove duplicative maintenance efforts and meet a greater range of business needs.
Interdependencies	KCA and DDES, as well as Elections and other agencies, have business requirements that may not be met by a single data model design, both in terms of geometry and attribute structure. Assignment of water body jurisdiction may be constrained by legal definitions not fully defined or available. Progress on this effort is dependent on available staff time of Assessments staff, DDES staff, and KCGIS Center staff.
Status	In progress
Target	Q2 2007
Activity	▪ Resolve inconsistencies in jurisdiction abbreviation codes and work to develop a single coded-value domain for all layers/tables that use or relate to this value. Expand coding model to maintain uniqueness across larger tri-county area. ▪ Develop and document tri-county coded-valued domain for jurisdictions, integrating requirements from Transit and WLRD (maintainers of CITY_3CO). Use enterprise data dictionary to determine other dependent layers and their impact on code consolidation.

	▪ Coordinate reconciliation of significant geometry inconsistencies between multiple King County city boundary layers as well as data provided by key cities. ▪ Support the research and documentation of incorporation and annexation boundaries adjacent to or including portions of major water bodies. ▪ Complete initial geometric water body jurisdiction allocation for review and assisting in the prototype maintenance design. Update allocation model with clearly-defined legal definitions that supersede pure geometrical allocation. Demonstrate repeatability of model with changes in water body boundary and varying legal definitions. Work with DDES to incorporate this into their layer maintenance design. ▪ Create final water body jurisdiction geometry, by combining allocation model and legal boundary geometries, and incorporate into the new consolidated city layer. ▪ Assist in the modeling and migration of consolidated city boundary data into the new geodatabase format. Provide design assistance for the maintenance and posting regime within an SDE enterprise geodatabase model. Consolidate all KCA and DDES business requirements into this model.

Name	**Points of Interest Layer**
Description	Reevaluate the need and common ground for a single points-of-interest layer shared by all KCGIS agencies. Develop a restricted inclusion list for testing which would include key KCGIS Center layers of this nature (e.g., FIRESTN, HOSPITAL, and POIPUB) and at least one or two other agency contributions. Prototype a two to three tier attribute model to handle different agency business requirements, and model actual location versus parcel or intersection-based location offsets.
Interdependencies	Coordination with key agencies (Transit, Parks, WLRD, and WTD) and sufficient scoping of overall requirements and individual business requirements for both geometry and attribute design. Determine relationship/timing with E911 addressing project
Status	In progress.
Target	Q2 2007 for pilot; if adopted, maintenance of more complete model by year's end.
Activity	▪ Meet with stakeholders to develop overall project plan and to evaluate practicality of meeting different business needs within a single data model. ▪ Develop multi-tiered attribute model to store standard set of required

	items in first tier with optional agency business values in second level. ▪ Address potential for an offset variable or multiple x,y storage to deal with requirements to store location as other than true centroid. ▪ Develop standard operating procedures to address multiple editors, including primary domain assignments, and mechanisms for quality assurance.

Name	**Extending Landsat Imagery Library and Associated Landcover Product Development**
Description	The core portion of the Landsat Imagery Library was established in 2006 with the acquisition of a series of summer-time satellite imagery for years: 1996, 2000, 2002 and 2004, plus a late-winter 2002 image. A summer 2006 image and possible in-fill of the existing series will be completed early in 2007. The workgroup has finalized a draft classification scheme based on input from multiple county stakeholders. Preprocessing of the images has also been completed. The project was largely dormant the latter part of 2006 due to other work priorities, but 2007 will see the finalization of the scheme and initial classification work. The actual timeline for classification work and quality assessment will be dependent on the time available from a limited pool of skilled interpreters. License consolidation during 2006 will provide the option to make the required software available to additional KCGIS Center specialists, again dependent on staff availability. This would additionally require, at minimum, an introductory training commitment from the WLRD technical lead, supplemented by vendor-based training to maximize the potential of using other staff.
Interdependencies	Primary interpreter and secondary interpreter availability; training for secondary interpreter
Status	In progress.
Target	Q1 2007 for pilot classification, Q2 2007 for 2004 or 2006 scene classification, Q4 2007 for earlier scene additions. Purchase of 2006 scene (and possible infill) during Q1 2007
Activity	▪ Finalize classification scheme, stakeholder and Technical Committee approval. ▪ Signature (training) site development. ▪ Pilot area classification, evaluation and accuracy assessment. ▪ Complete scene classification, procedure documentation, error analysis. Possible, limited ‘ground-truthing’. ▪ Proceed with subsequent scene classifications, labor availability permitting.

	▪ Documentation (metadata) and posting of products to SDW.

Name	**Phase II WTRCRS – Linear Measure**
Description	Phase I of the Hydrography enhancement project resulted in significantly updated WTRCRS and WTRBDY geometry and attributes, as well as a full suite of new topographically-based drainage basin layers (TOPO_CATCHMENT, TOPO_BASIN, TOPO_WATERSHED, TOPO_WRIA) and related layers. WTRCRS, WTRBDY and the TOPO drainage series primary line and polygon topology are now in maintenance mode. Phase II work will affect only WTRCRS, where key agency-specific business attributes will be added to the schema and linear measure topology will be created for streams within basins encompassed in whole or part by the King County boundary.
Interdependencies	Continued work by the Hydrography workgroup to finalize the linear measure identification scheme, with sufficient labor available for updating the features with the identifier along with related quality control. Agency-specific business table attribute assignment will be performed by the benefiting agency in a shared editing environment. The workgroup will provide oversight in ensuring logical database design modifications resulting from these additions.
Status	In progress.
Target	Q3 2007 for the linear measure topology addition; Agency-specific business attribute addition is dependent on the affected agency's staff availability or Client Services agency support.
Activity	▪ Finalize extent where linear measure system will be applied. ▪ Finalize route identifier design, determine pilot area, apply and test. If possible adapt portion of existing measure-based business table for enhanced testing. ▪ Develop and document, as required, standardized editing tools and environment and/or backend applications to assist and automate linear measure updates. This will expand the existing backend process in place for maintaining database integrity and configuration. ▪ Review agency-specific attribute additions on case-by-case basis. Coordinate editing with primary steward. Establish quality control requirements. Agency coordinates and provides labor for actual editing and quality control. Updates metadata.

Name	**Raster Data Products**
Description	Updates to software and database storage design, since the original data development effort, require enhancements to two existing contour isoline

	data products: 1. Bathymetric data has been incorporated into the digital ground model for all major water bodies and a number of larger lakes within the county. Data products derived from this base have been delivered to the SDW shapefile library, but have not been incorporated into the SDE GDB version. Routines to replace only portions of the single, contiguous feature class and to edge-match newly inserted data (using the Spatial Adjustment Toolbar) need to be developed. 2. The current version of the DXF format 5-foot contours in the 7500 tiling scheme falls below acceptable quality standards due to data gaps and mismatched contours. The updated contour feature class in the SDE GDB, updated in the step above, will be used to develop a seamless set of tiles using ArcToolbox conversion tools via Python or ModelBuilder. Developing Model Builder and/or Python routines to perform these updates will improve the overall quality of the digital ground model database and allow future updates to be performed in a more timely fashion. These steps will also lead the way to the migration of all remaining workstation AML-based grid processing routines to desktop processing.
Interdependencies	None
Status	On hold.
Target	Q2 or Q3 2007
Activity	▪ Develop Model Builder or Python routines to import the updated shapefile version of the 5-foot contour layer (township tiles) into the SDE GDB. Unselect the same tile from the contiguous 5-foot feature class. Edge match new data to the existing adjacent tiles and insert the new data into the contiguous database. Update the key index contour layers. ▪ Develop Model Builder or Python routines to extract seamless 7500 tiles, in DXF format, from the 5-foot contour database. Mimic, as close as possible, the successful attribute structure currently adopted. ▪ Successfully test a sample of the tiles in a CAD-based system prior to releasing to the full data set to the public. ▪ Successfully review seamless database and ensure that no significant differences exist between the SDE database version and the shapefile version stored as township tiles in plibrary3. ▪ Update contour layer metadata with details about bathymetric enhancements, DXF generation, and processing procedures.

Application Enhancement and Development

Name	***PostRep***
Description	This is a set of modularized back-end utilities which includes routines that handle the following: posting of data to the KCGIS Spatial Data Warehouse, implementation of schema changes to the datasets, and QA/QC processing of posted datasets. *PostRep* replaces the functions of the current UNIX update and batch process. In 2007 new utilities will be added to *PostRep*.
Interdependencies	*PostRep* only handles data migrated to geodatabase; non-migrated data will still use the legacy *Update* cycle.
Status	In progress.
Target	2007
Activity	▪ Tune existing *PostRep* by adding the following utilities: ▪ Index replication for tables ▪ Metadata copying for reloaded data ▪ Killing of schema locks ▪ Connections to remote servers for data ready posting

Name	***LibTool***
Description	*LibTool* will incorporate the functionality of the ArcView 3.x extensions KC Shapefile Library and KC Image Library. *LibTool* will reflect the major components of their look and feel to assist users in the transition to the ArcGIS 9.x environment. Users will be able to: easily access KCGIS Spatial Data Warehouse layers, imagery, and metadata via an interface that offers “plain English” labeling; retrieve commonly used sets of symbolized views; save and retrieve their own user-defined sets of symbolized views; generate maps using standard layouts; and easily set standard symbology and relates (if the user is a data steward).
Interdependencies	Coordinate with agencies to incorporate requirements, functionality and “best of” features from various mapping applications. Use *LibTool* development as pilot for multi-agency effort to develop and maintain an enterprise tool.
Status	In progress.
Target	Q3 2007
Activity	▪ Finish requirements gathering. ▪ Develop two initial modules for the application that have been identified as "Make a Map" and image locator. ▪ Build, test, and deploy application.

	▪ Prioritize, create, and deploy other modules.

Name	***ParcelTool***
Description	This module will incorporate the functionality of the current ArcView 3.x extension *KC Parcel Tools*. Primary functions are: make queries based on PIN or taxpayer name; query for information based on user-defined criteria (for example distance from a selected parcel); view and map cadastral information with minimal user input; and format mailing labels for selected parcels. Much of the functionality identified for *ParcelTool* may be incorporated into other applications, so a decision to proceed with development of this tool will be made in 2007.
Interdependencies	To be developed after *LibTool* is completed and after needs survey has been conducted.
Status	Not started.
Target	2007
Activity	▪ Determine business needs and scope requirements. ▪ Make decision on whether or not to proceed with development.

Name	***iMAP***
Description	*iMAP* is a robust Web-based map viewer that provides access to map layers and other related information. Continuous enhancement of *iMAP* is a key goal, with two primary objectives – improve usability and add functionality based on business requirements. In 2006 a user survey was conducted on *iMAP* in order to help determine the next set of desired enhancements. More than 10 enhancements of *iMAP* were implemented as a result. In 2007, *iMAP* will be maintained and extended as necessary to meet new business needs. No major redesign or functional additions are planned as the focus will begin to shift to developing similar functionality in a server-side solution that will eventually replace *iMAP*.
Interdependencies	Stability of King County WAN and Internet services, as well as KCGIS Center ArcSDE, SQL Server, and ArcIMS infrastructure.
Status	In continuous development.
Target	No fixed target.
Activity	▪ New map sets likely for “Shoreline Master Plan” and “City of Newcastle”. ▪ Identify and develop any new functionality as needed for these or other new map sets.

Name	***Parcel Viewer***

Description	*Parcel Viewer* is a Web-based application targeting property searches. The simple interface allows users to navigate the map and select parcels, or search for properties using address, cross streets, or parcel number as input. *Parcel Viewer* interface will be redesigned in 2007 based on feedback from user studies conducted in 2004 and 2006. More space for property information will be provided, and additional search criteria will be added such as city names, S-T-R, and possibly plat names. The address search routines will be improved and an option to display orthophotos will be added. In addition, *Parcel Viewer* will be completely rewritten using the ASP.NET 2.0 framework and the ESRI ArcIMS 9.2 WebADF (Application Development Framework).
Interdependencies	Stability of King County WAN and Internet services, as well as KCGIS Center ArcSDE, SQL Server, and ArcIMS infrastructure.
Status	In progress.
Target	Q2 2007.
Activity	▪ Functional requirements for *Parcel Viewer* have been developed. Review these functional requirements and modify as necessary. ▪ Conduct focus group, record comments, suggestions, problems, etc. ▪ Analyze focus group results and formulate design or functionality modifications. ▪ Implement design of functionality changes. ▪ Design layout and user interface. ▪ Develop new *Parcel Viewer* web application ▪ Test, modify, and repair cycle. ▪ Deploy new *Parcel Viewer* to public.

Name	***KCGISWebService***
Description	*KCGISWebService* is a collection of database search and GIS functions developed by the KCGIS Center and available to other programmers as a SOAP compliant web service. This web service makes it possible for applications on any server to easily access specific search and GIS functions on the KCGIS servers in a secure manner. First deployed early in 2006 there are 14 functions as of November 2006. This web service is expected to become a valuable resource to other King county programmers in 2007, and additional functionality will be developed as needed.
Interdependencies	Stability of King County WAN and Internet services, as well as KCGIS Center ArcSDE, SQL Server, and ArcIMS infrastructure.

Status	In progress
Target	No fixed target.
Activity	▪ Additional functions will be developed and deployed as needed. King County programmers can request new functions during the development cycle of new websites. This web service is deployed on the public GIS web server and is therefore available for use by public sites, however it is expected that this web service will not be generally advertised or listed on web service clearing houses, therefore it will be available mainly by invitation. For example, we may offer to let a local jurisdiction use the web service for conducting select, specific searches of our database from their web site.

Name	***Generate***
Description	*Generate* is a nightly routine that will call various modules to create and/or prepare data for posting. It will generate data and then populate the PostRep table flagging it for posting. Modules to be developed include the following: PointLayerFromTable – generates a layer from a table of XY coordinates; LayerFromRelateTable – generates a layer from a table with a field that relates to a layer in the Spatial Data Warehouse (i.e. PIN); AutoUpdate – automatically searches for data in a location provided by the data steward and generates a PostRep record for posting on a specified timetable (e.g. daily, weekly, monthly).
Interdependencies	Dependent on *StewardTool* and *PostRep*.
Status	In progress
Target	Q2 2007
Activity	▪ Program, test, and implement the following modules: PointLayerFromTable; LayerFromRelateTable; and AutoUpdate.

Name	***ParcelHistoryUpdate***
Description	This is a Python script designed to extract all parcel changes from the Edit Version of parcel and insert them into the parcel history layer in the KCAM database.
Interdependencies	Will run nightly in batch.
Status	In progress
Target	Q1 2007
Activity	▪ Create queries. ▪ Create Python script. ▪ Create batch job to run nightly.

Name	***LotSquareFootage***
Description	This is a python script designed to extract a list of parcels from the parcel history where the lot square footage field has been changed and generate a table of those changes for the King County Assessor's office.
Interdependencies	Will run nightly in batch after PARCELHISTORY layer has been updated for that day.
Status	In progress
Target	Q1 2007
Activity	▪ Create queries. ▪ Create Python script. ▪ Create batch job to run nightly.

Name	***KcamEditExtension***
Description	The *KcamEditExtension* is a toolset extension for ESRI's ArcMap. It contains several editing tools for King County Assessor's drafting group to help maintain the cadastral database. In 2007 new functionality will be added to this tool.
Interdependencies	
Status	In progress
Target	Q1 2007
Activity	▪ Add ShowEndPoints – a button to show polyline endpoints and not vertices. ▪ Add CopyCoder – a routine to preserve the TYPE and other coding for boundary and parcel when copied from working layers into versioned CADFEATURES data sets.

Hardware, Software, Database, and Licensing Changes

- Consolidation of certain ESRI software licenses currently maintained on departmental servers with those maintained on KCGIS Center servers may occur during 2007. A workgroup has identified and assessed technical and institutional issues which need to be resolved if such a consolidation is to be implemented. A proposal and recommendation by that group was placed before the KCGIS Technical Committee in November 2005. The Technical Committee has yet to reach a consensus regarding the proposal. Four Technical Committee agencies have initially indicated they will not participate in license consolidation or have expressed serious reservations. In 2007 further attempts will be made to convince all agencies to participate and decisions will be made accordingly before proceeding with consolidation.

- By early 2007, it is anticipated that the server *WILDFIRE* will have been taken out of service permanently. If this occurs as planned, the remaining ArcInfo 7.x and extension licenses which had been maintained on *WILDFIRE* may need to be transferred to the server *ORCA* and upgraded to ArcGIS 9.x. The KCGIS Center will assess the probable demand for additional ArcGIS 9.x licenses and determine which, if any, of these licenses should be transferred and upgraded. This assessment and any consequent license transfers will most likely take place during the first quarter of 2007.
- Through 2006, the server *ORCA* hosted two ArcSDE Server licenses, while three other KCGIS Center servers each hosted one of these licenses. After reviewing the configuration of these licenses and the demands to which they are subject, it has been proposed to reduce ArcSDE Server licenses on *ORCA* from two to one. If the decision is made to proceed with this change, the maintenance on this license will be allowed to expire on January 31, 2007, which is the county's ESRI maintenance anniversary date.
- The KCGIS Center production server housing the Spatial Data Warehouse, and the infrastructure supporting the iMAP and Parcel Viewer Internet mapping applications were identified as critical applications by the King County continuity of business study. As a result, these systems must be fully replicated at an alternate data center outside of downtown Seattle. The Alternate Date Center is scheduled to come on-line in March 2007. At that time, backup GIS systems will be purchased, configured and installed by KCGIS Center staff.
- The network attached storage device that contains DNRP GIS projects (DNRP1) requires an operating system upgrade because Microsoft is dropping patch support for Windows 2000. This device runs a network appliance version of Windows 2000 Server. The data on this device will be moved to a new iSCSI storage array to be attached to server GISDW.
- Development spatial servers for ArcIMS will be replaced in 2007 with two servers currently used in production. Two, new production servers will be acquired. These will probably be Dell PowerEdge 1950 class systems with dual core processors.
- Pending award of a grant from ESRI the KCGIS Center will acquire a Stratus Fault-Tolerant 4300 Server. This server will come installed with ArcGIS 9.2 Server Advanced Edition software also awarded via the grant. The hardware and software will be used to develop an enterprise solution for maintaining and distributing a countywide addressing database. The project, formally known as "E911 Address Maintenance and Data Distribution Application", and nicknamed "AMANDA 911", is described in Section 4.1.2.
- In 2007 desktop PC replacement in the KCGIS Center will continue on a modified four year cycle. Some 4-year old machines that are still functional may remain in service in order to maintain an adequate development/testing environment for GIS application developers.
- Two obsolete plotters were sent to surplus in 2006. To replace these machines an HP Designjet 3800CP was acquired via asset transfer from the Wastewater Treatment Division. Another plotter may be purchased in 2007 to take the place of yet another plotter that is currently offline awaiting repairs, and may remain so if needed parts cannot be found.
- The King Street Center training facility computers will be replaced in 2007. Funds from renting the facility to ESRI and NOAA will be used to fully offset the cost to purchase the 17 machines.

Staffing Changes

- The KCGIS Center staffing model is developed in coordination with the KCGIS Oversight Committee. For 2007 the overall staffing level remains unchanged from 2006 at 31.0 FTEs. However, the budgeted FTE allocations for two of the business units change for 2006. See the following bullets.
- **Matrix Staffing Services** – The staffing allocation increases from 12.75 FTE in 2006 to 13.40 FTE in 2007 for a net change of +0.65 FTE. This change is based on 0.10 FTE increase for management and administration, a 0.25 FTE increase in matrix staffing for the Parks and Recreation Division, a 1.00 FTE addition of matrix staffing for the Department of Assessments, and a 0.70 decrease in matrix staffing for the Wastewater Treatment Division. Seven agencies are supported through Matrix Staff Services in 2007 at the following levels: DNRP – Parks and Recreation (1.25 FTE); DNRP – Solid Waste (1.00); DNRP – Wastewater Treatment (3.30); DNRP – Water and Land Resources (4.00); DOT – Road Maintenance (1.00); DOT – Transit (1.00); and Assessments (1.00).
- **Client Services** – The staffing allocation decreases from 5.65 FTE in 2006 to 5.00 FTE in 2007 for a next change of -0.65 FTE. This change is based on reallocation of 0.65 FTE to Matrix Staff Services to support additional management overhead and increased demand for matrix staffing.
- **Enterprise Services** – The staffing allocation remains unchanged at 12.60 FTE.

Other Changes

- None anticipated.

DNRP – Wastewater Treatment Division

Agency GIS Overview, Priorities, and Goals

- WTD Background:
  - King County protects water quality and prevents water pollution by providing wastewater treatment to 17 cities and 18 local sewer utilities. The county's Wastewater Treatment Division (WTD) serves about 1.4 million people, including most urban areas of King County and parts of south Snohomish County and northeast Pierce County.
  - The mission of WTD is "to protect public health and enhance the environment by treating and reclaiming water, recycling solids and generating energy."
  - The WTD GIS team assists in this mandate by developing, interpreting, displaying, maintaining and providing access to spatially oriented data. This service enhances and supports WTD project planning, design, and operation strategies.
- WTD GIS Team Organization:
  - The WTD GIS Team consists of four GIS Specialists who are under the Department of Natural Resources and Parks (DNRP) GIS matrix-management structure so are organizationally located within the King County GIS Center. This structure allows for the administrative management of the analysts coming from the KCGIS Center Manager while the day-to-day work-load management comes from the lead for the Technical Resources Group within WTD.
  - The four specialists share responsibility for project support, cartography, and data maintenance with each specialist specializing in different areas including database administration and application development. One of the four specialists will spend 0.3 of an FTE on WTD projects in 2007.
- The WTD GIS team provides the following services:
  - Cartography: for presentations, reports, and analyses.
  - Analysis: to answer questions regarding the wastewater system infrastructure, capacity and future needs, property, political boundaries, and population changes.
  - Data development and maintenance.
  - Database and geodatabase development and maintenance.
  - Programming and application development: including applications for individual, division, and county-wide use.
  - GIS user support.
- WTD GIS Program Challenges.
  - Within the next 5 years the GIS support for the I/I and Brightwater projects is expected to decrease requiring a reevaluation of the FTE level needed. GIS work available for new WTD projects including a general database administrator role for the division, programming needs, and other GIS related projects not yet identified may compensate for the loss of work in this time period.

- WTD has data sets that are relied on for making decisions which the WTD GIS team manages. Many other data sets exist or are being created that need administration. The GIS team's expertise and institutional knowledge places them in a position to assume a database management role in the near future.
- Training in Web and database development, cartography, and ArcGIS application development are prerequisites for the WTD GIS team in order for it to meet future goals.

- WTD GIS Cross Agency Issues – The WTD GIS team will:
  - Continue to require enterprise services support from the KCGIS Center on I/I application, IMS and other projects including WTD's Intranet Data Access Application. This application is playing an integral role in the grant application which may result in an ArcServer license and necessary hardware.
  - Continue to work with the Parks and Recreation, Water and Land Resources, and Solid Waste Divisions within the Department of Natural Resources. WTD, Parks, WLRD, and Solid Waste share data on their own server.
  - Continue to work with Public Health to acquire septic system records.
- WTD GIS Strategic Initiatives
  - Cartography – The WTD GIS team will continue working to expand and improve their current skills in cartographic science and art through the combined use of GIS software, digital illustration, graphic design, and publication tools. It is the group's goal to decrease or eliminate reliance on outside graphic design firms when a map or graphic is needed by developing the cartography and graphic skills including concept development, data collection, cartographic design, and cartographic production.
  - Analysis – Several tools have been developed that allow the casual user to create basic maps and do powerful data queries with relatively little training. The software and data are accessible but neither is being used to its fullest potential. The WTD GIS team will educate WTD managers about GIS and teach casual users the abilities that they already have but of which they might not be aware. Access to these tools and data, coupled with the knowledge of their existence and usage, will not only save time in the acquisition of project related data but will also provide information to the decision-making process that might otherwise be left out.
  - Data Maintenance – The WTD GIS team currently maintains 16 WTD datasets. The information for three of these datasets is provided by the principal end user; an application allows the end user to update and maintain the data while a GIS layer is automatically created. Two other data sets, Flow Monitor and Rain Gauge, will be transferred to their proper stewards and GIS applications developed so the stewards can manage their data.
  - Dataset Creation – Two data layers need to be created to assist WTD decision-makers in meeting future wastewater capacity issues. One layer will identify the parcels that are currently using septic systems. The next will identify drinking water conveyance.
  - Data Quality – Ensuring that the King County sewer line and facilities data sets are up to date and accurate. The FIRS, Sewer Agency and Local Lines layers are datasets constantly in flux which need regular updates.

- Programming/Application Development – Data maintenance tools that allow the end user to update and add data and automatically create a GIS layer(s), tools to create cartographic products, and IMS (Internet Map Server) pages will be developed to enable WTD staff to maintain their data and produce simple maps as needed. Also, work is currently underway to identify data needs and uses, GIS and other data, so as to develop applications to more efficiently access and leverage the data.
- Metadata – ensuring that the metadata on all public and working servers is up to date so WTD staff can access the correct datasets for their projects.
- DBA Role – Numerous scattered data sets used by WTD are not being efficiently utilized in conjunction with other available data. These data are financial, asset management, engineering, inspection, maintenance, and monitoring related. WTD plans to develop a systematic approach to its data maintenance, organization, and development with a single point of administration and a central RDBMS through which all of the division's data can be accessed and leveraged against other data. Since they have the data management skills, the WTD GIS team will assume the DBA role for this data.

- WTD GIS and KCGIS Relations
  - Much of the data created for the WTD projects mentioned are posted to a county-wide data warehouse. This data is also provided on data disks which are sold to anyone wishing to use the data for their own needs. To adequately support a breadth of application needs the WTD GIS team create data to meet high standards. In this way they not only support WTD, but also the county as a whole. The matrix management approach applied to the WTD analysts is effective in that the analysts support WTD's mission while still supporting county-wide GIS efforts through cross-departmental support, data development, and by sitting on workgroups.

Planned Project Activity and New Projects

Name	**FIRS to GDB**
Description	Migrate shapefile based FIRS data (facilities, sewers, inspections, and conditions), and managing application, which is avenue based in ArcView 3.x, to a GDB and ArcGIS 9.x.
Interdependencies	None.
Status	75%
Target	9/07
Activity	▪ Load inspections, conditions. ▪ Add flow monitors and local lines to the design. ▪ Complete tool development for editing by Facilities Inspection staff.

Name	**Onelines**
Description	Update of atlas showing parcels, roads, and sewer conveyance in the WTD

	service area. King County WTD pipe and facility attributes are the focus. Current Onelines are on the intranet and completion of this atlas update will result in an update of the Onelines intranet site as a maintenance issue.
Interdependencies	None.
Status	5%
Target	12/2007
Activity	▪ Five year update of atlas – includes extensive cartographic work and atlas production in addition to data QA/QC and stakeholder evaluations.

Name	**System Map Book**
Description	A hard copy map book of the King County sewer system, local sewer lines, and local jurisdictions. Relationship to other agencies conveyance and overall hydrology is the focus.
Interdependencies	None.
Status	Not started
Target	12/2008
Activity	▪ Extensive cartographic work and atlas production in addition to data QA/QC and stakeholder evaluations.

Name	**Non GIS Database Plan**
Description	Develop a plan to better manage all non-spatial, and currently unmanaged, WTD data into a framework that will allow better maintenance and more efficient use.
Interdependencies	None.
Status	Not started.
Target	08/2007
Activity	▪ Research data that fits description above. ▪ Develop plan.

Data Enhancement and Development

Name	**As Built Link**
Description	As built drawings show King County sewers and facilities as they are built. Scanned drawings are available via the intranet, but they are difficult to search through. This link would allow the user to click on a pipe or facility located on an online map and have the As built drawing(s) come up.

Interdependencies	None.
Status	20%
Target	12/2007
Activity	▪ Extract list of drawings from scanned drawings database. ▪ Create GDB with all appropriate drawings. ▪ Add spatial extents from all drawings.

Name	**Site Plan Development**
Description	Create a data layer showing the wastewater treatment plant sites including building foot prints. This will assist the treatment plant staff in maintenance, disaster planning and other activities.
Interdependencies	None.
Status	5%
Target	12/31/07
Activity	▪ Research orthophotos and parcel data layer to determine best data source. ▪ Extract data. ▪ Create site plan data layer.

Name	**Waterlines GDB**
Description	Create a geodatabase of water supply lines in the WTD service area. Currently, King County does not have water supply information. This data layer will assist in determining where water is available in case residents lose access to their primary water source during construction activities.
Interdependencies	County water districts.
Status	10%
Target	12/31/07
Activity	▪ Contact local water service utilities. ▪ Collect water supply line data layers. ▪ Compile data into GIS format. ▪ Create GDB.

Name	**Storm Water GDB**

Description	A geodatabase of all storm water collection systems within the WTD Service Area. Currently King County does not have a comprehensive storm water collection dataset. This information with assist WTD staff in planning, upgrades and maintenance of King County's system.
Interdependencies	Local storm water agencies.
Status	5%
Target	06/08
Activity	▪ Collect data. ▪ Compile data. ▪ Create GDB.

Name	**GPS System**
Description	Acquire GPS readings for all manholes, pump stations, regulator stations and other facilities within the WTD sewer system. This will enable the WTD GIS team to create a positionally accurate dataset to assist WTD staff in planning and maintenance of King County sewers.
Interdependencies	None.
Status	20%
Target	12/31/07
Activity	▪ GPS facilities. ▪ Conflate FIRS data to GPS information.

Application Enhancement and Development

Name	**Intranet Data Access Application**
Description	Develop an intranet site for WTD employees to access varied and disparate data sets in formats that will allow them to more efficiently fulfill their work goals. Data includes spatial and tabular, document and visual media, county and external. Examples include: o Flow/Flow monitors o Rain/Rain gauges o Tidal o Documents o AsBuilts

	o Photos o GIS o Environmental data
Interdependencies	To be determined by needs assessment but expected to be extensive.
Status	5%
Target	Initial deliverable of usable site with limited functionality but full data linking by Spring 2007.
Activity	▪ Needs assessment. ▪ Data research. ▪ Page with links and contact. ▪ Built out page with some GIS and .ASP functionality. ▪ Full site to be determined by needs assessment.

Name	**WTD Google Map Site**
Description	Development of an Internet site that will serve up basic WTD system information to the public. This effort differs from the Intranet Data Access Application described above in that it serves data to the public rather than internally and the level of data being served is less robust including phone numbers and locations rather than flows and engineering drawings.
Interdependencies	Google for API and KC ITS for Web standards.
Status	90%
Target	12/2006
Activity	▪ Program Google Map API to accept WTD facility data. ▪ Format site to meet ITS and DNRP Internet standards.

Name	**Layout Tool**
Description	An ArcGIS tool that allows end users to select data layers and map size and have a map automatically generated.
Interdependencies	KCGIS Center
Status	Not started.
Target	12/2007
Activity	▪ Acquire code from past layout tools.

	▪ Transfer code to ArcObjects/Python. ▪ Launch tool.

Hardware, Software, Database, and Licensing Changes

- In 2007 WTD plans to put one ArcInfo license into use that is being migrated from the I/I project. This is in addition to the three ArcView licenses already migrated to WTD desktops. The four specialists utilize ArcView and ArcInfo licenses from the pool of licenses maintained by the KCGIS Center and funded through interdivisional fund transfers.

Staffing Changes

- One journey level GIS Specialist position will be split with 30% of time devoted to WTD efforts and 70% to KCGIS Center needs. This is a split of an already reduced schedule due to a new child.
- WTD will employ one intern through the 2006-2007 school year to aid in AsBuilt data development and assist various cartographic and analysis projects. This intern will work 15 hours per week.

Other Changes

- None Planned

DNRP – Water and Land Resources Division

Agency GIS Overview, Priorities, and Goals

- **WLR Mission:**
  - Serve as stewards of safe and clean water resources, healthy habitats, and functioning landscapes throughout King County.
  - Protect and enhance quality of life, public health, and public safety by managing our water and land "infrastructure" (farms, forests, shorelines and marine waters, rivers, lakes, streams, WRIAs and associated watersheds, drainage, groundwater systems throughout the region).
  - Serve as technical experts on King County's regional environmental quality for defining and implementing strategies for resource protection.
- **WLR GIS Program Organization:**

  WLR GIS program consists of four GIS analysts with a unique set up under the Department of Natural Resources and Parks (DNRP) GIS matrix-management structure. These analysts are in the same work unit as DNRP/WLR GIS, Visual Communication & Web, working jointly with other technical experts to deliver services and products for WLR work programs, the DNRP Director's Office, and other department/division special programs. These four staff receive project assignments from DNRP/WLR GIS, Visual Communication & Web unit manager based on areas of expertise and project workloads.
- **WLR GIS Services**

  GIS provides data, tools and analytical services to assist in policy analysis, planning and monitoring of the natural environment. Multiple mandates include sustaining healthy watersheds, protecting public health, water and air quality, preserving open space, working farms and forests, ensuring adequate water for people and fish, and managing public drainage systems and protecting/restoring habitats. All data sets that are created and maintained by the following programs are available on KCGIS Spatial Data Warehouse (PLIBRARY), and/or the DNRP Data Warehouse (DNRPLIB). Specific business functions include:
  - ***Regional Services*** – GIS services for programs including WRIA/watershed support, groundwater management, and hazardous waste. GIS data and analysis are also used to predict and monitor flood hazard zones and provide basin-wide regional analysis.
  - ***Science, Monitoring and Data Management*** – Water quality, hydrologic assessment and analysis. Coordination with various data management and field activities to ensure efficient access to all relevant spatial data.
  - ***Office of Rural and Resource Programs*** – Data development, analysis, and mapping and application development for programs including agriculture, forestry, resource protection incentives, noxious weeds mitigation, natural lands management, and basin and lakes stewardship programs.
  - ***Stormwater Services*** – GIS supports service delivery analysis, drainage investigation, and inspection services. Regulation, compliance, and NPDES permit compliance are also supported.

- ***Capital Projects and Open Space Acquisitions*** – GIS is used to depict and analyze proposed acquisitions, and provide ecological and surface water engineering services.
- ***DNRP Director's Office*** – GIS is used for analysis of some regional policies, such as Open Space, Forest, Water, Energy and Air Quality/Climate change.
- ***WLR Division Director's Office*** – GIS is used for analysis of policy and funding strategies work programs.

Planned Project Activity and New Projects

Name	**King County Software Migration**
Description	The process of converting data to the new ArcGIS data formats. Nearly all of the data that will reside on the KCGIS Spatial Data Warehouse have been migrated. The efforts for 2007 will primarily focus on converting agency (DNRPLIB) data to SDE format.
Interdependencies	The KCGIS Center is leading this effort.
Status	In progress.
Target	2007
Activity	Convert spatial data to SDE format.

Name	**Shoreline Master Program**
Description	The SMP will result in a draft proposal to characterize and designate King County's shorelines of the state and draft shoreline master program policies.
Interdependencies	This effort is funded by a grant from the Washington Department of Ecology.
Status	In progress.
Target	2007/2008
Activity	▪ Collect and organize existing GIS datasets needed for analyses. ▪ Collate, organize and reconcile databases. ▪ Document data sources. ▪ Assess data quality and identify data gaps. ▪ Conduct analyses as directed by SMP science workgroup. ▪ Create maps as needed. ▪ Develop a new *iMAP* map set and Web application that will use ArcWeb Services. This application will include database searches that will interact with the map services and generate reports that would appear more like a

	Web page than an application.

Name	**Lake Washington General Investigation (LWGI)**
Description	Mapping and data development for proposed restoration sites. Needed for preparation of a planning level appraisal and becomes an exhibit to the Army Corp of Engineers (ACOE) Real Estate Plan.
Interdependencies	This is a joint effort with U.S. Army Corp of Engineers.
Status	In progress.
Target	Started March 2005, completion 2007
Activity	▪ Create personal geodatabase for ACOE transfer of data. Create missing datasets. ▪ Produce maps and design map template to depict project area, proposed site features, parcel information, access and parcels required to support the project.

Name	**ArcIMS Developers Workgroup**
Description	The ongoing effort to maintain and improve *iMAP*, King County's ArcIMS Internet application, and other related ArcIMS applications. WLR Division maintains Groundwater Program, Hydrographic Information, Noxious Weed Location, Stormwater, and WRIA 9 Habitat Projects map sets on the public site and Greenprint map set on the internal site. The other ArcIMS applications maintained by WLR are Salmon Watcher, Groundwater, and Snoqualmie Riparian Photo Viewer applications.
Interdependencies	The KCGIS Center is leading this effort.
Status	In progress.
Target	Ongoing
Activity	▪ Participate in the workgroup to set policies and best practices, as well as to share development ideas and expertise. ▪ Develop custom programming for the general *iMAP* interface as assigned by the workgroup. ▪ Assist in conducting usability studies or focus groups.

Name	**Green River Normative Flows Study**
Description	Determine instream flows required to support salmon and maintain watershed health.

Interdependencies	DNRP/WLRD/Watershed and Ecological Assessment is leading this project.
Status	In progress.
Target	2006
Activity	• Orthorectify and mosaic aerial photographs of the Middle Green River for various years from 1936 to 1995. • Analysis of channel occupation and vegetation changes. • Provide technical support for data collection and database design.

Data Enhancement and Development

Name	**King County Land Cover**
Description	Classify Landsat or similar satellite imagery for land cover, years 1996, 2002 and 2004.
Interdependencies	The KCGIS Center will acquire and warehouse data.
Status	Planned.
Target	2007, repeat at intervals to be defined
Activity	• Preprocess imagery as required. • Define land cover classification schema in consultation with DNRP/WLRD and other interested county staff. • Apply land cover classification schema. • Accuracy assessment.

Application Enhancement and Development

Name	**Groundwater Data Search**
Description	Develop additional search pages and functionality in this application to allow users to more fully query the Groundwater Protection Program Database.
Interdependencies	May require additional development or modification of the existing Groundwater Protection Program Database.
Status	Phase II work planned for early 2007.

Target	2007
Activity	▪ Add new water level query page. ▪ Add new water quality query page. ▪ Enable groups of groundwater source selections from *iMAP* to be sent and processed by the application to return a summary table of available data. ▪ Explore the possibility of a dedicated *iMAP* tool to connect to the existing application. ▪ Update database, resulting GIS layers periodically.

Name	**WRIA 9 Projects**
Description	Improve the method to locate projects in the GIS data layer that are the subject of this *iMAP* map set. Currently projects are located by using PINs, but this is unsatisfactory for many stream related projects. Switch to using coordinate locations as captured either through GPS or *iMAP*.
Interdependencies	Will require the development of a new routine in Python as part of the *PostRep* group of scripts which have not yet been completed.
Status	Planned work for 2007.
Target	2007
Activity	▪ Develop Python script to connect to a database table and create a GIS layer using coordinate data in the database table. ▪ Generalize the specific script developed for this particular instance to be functional within the *PostRep* routines for particular types of user selected tables.

Name	**Mitigation Reserves**
Description	Create a new application that will assist users in finding receiving sites that meet their sending site characteristics. This application will assist in tracking and matching sites from DDES that have off-site mitigation needs with ecological sites (natural lands) that need restoration work done.
Interdependencies	Requires management approval of methodology.
Status	Pilot project 1st quarter 2007.
Target	Completion late 2007 or early 2008
Activity	▪ Develop listing of sending and receiving sites and create GIS layer. ▪ Develop user interface to assist in selecting appropriate sites.

	▪ Develop web application with integrated *iMAP* mapping functionality. ▪ Develop and design database for tracking sites. ▪ Develop routines/models for periodic GIS data updates.

Hardware, Software, Database, and Licensing Changes

- None planned.

Staffing Changes

- None planned.

Other Changes

- None planned.

DNRP – Parks and Recreation Division

Agency GIS Overview, Priorities, and Goals

- The mission of the Parks and Recreation Division is to operate and maintain the parks, trails, facilities, and programs which comprise the King County Park System. This encompasses three primary business functions: facility and site maintenance, recreation and event services, and program development and land management. Facility and site maintenance includes maintaining a safe and inviting parks environment, as well as managing open space and natural areas. Recreation and event services involves providing primary recreation services for residents in unincorporated areas of King County and also providing a year-round facility for hosting entertainment and educational events. Program development and land management takes in long-term planning for parks, open space, natural areas, and trails; development and coordination of the annual Capital Improvement Program and the six-year Capital Improvement Program; and property management oversight.
- The Parks and Recreation Division is comprised of five operational units: the Administrative and Financial Services Section, the Capital Planning and Land Management Section, the Marketing and Economic Development Section, the Parks Resource Section, and the Regional Parks, Pools and Recreation Section. GIS support is provided to all of these units, as well as to the Division Director's Office, by an allocation of 1.25 FTE. Work assignments are shared among three professional GIS analysts, who are part of the group of GIS analysts providing matrixed support to all DNRP divisions. The Parks GIS analysts are also affiliated with the KCGIS Center Client Services staff and Enterprise Services staff, which enables access to their specialized services and expertise when needed for division projects. The Parks GIS analysts are supervised by the Parks and Recreation Division GIS Program Manager.
- The Parks and Recreation GIS Program supports the Division's managers, staff, and programs with a full range of products and services. These include data development and maintenance, data interpretation and analysis, map design and production, application development and maintenance, Web services, end-user training, and project consulting. The majority of products and services are provided on request to managers and staff of the division's administrative offices in Seattle. A large number of requests are also handled on behalf of managers and staff working in outlying administrative offices or individual parks, such as Marymoor Park and Cougar Mountain Regional Wildland Park. These include maps and reports used for a variety of planning, management, and maintenance purposes.
- As a relatively small program, Parks GIS must conduct its work in the context of two key cross-agency dependencies. The first of these concerns data maintenance. Although the products and services which this program provides often involve numerous data layers, Parks GIS is itself the steward of only a few of these. The accuracy and reliability of its products and services therefore depend upon consistent, timely maintenance of data layers by other county GIS programs. The second key dependency is that of access to the specialized skills and expertise of the KCGIS Center Client Services staff and Enterprise Services staff. As the products and services of Parks GIS demand the use of increasingly advanced tools and techniques, it is essential for the program's GIS analysts to be able to consult with the staff of these two groups. Both Client Services and Enterprise Services have historically been open,

approachable, and very supportive of the needs of Parks GIS. The dependency in this case is one of availability to specific staff at specific times, due to the heavy demands which are placed upon the staff of both groups.

- The mission of the Parks and Recreation Division is more narrowly focused and specialized than that of many of the larger county departments and agencies. As a result, the Parks GIS Program also has a relatively narrow focus and a somewhat limited role in the overall KCGIS enterprise. There is a moderate amount of interaction with the other DNRP divisions, particularly Water and Land Resources, but little involvement in the activities of GIS programs in other departments. Parks GIS diligently maintains the enterprise data layers for which it has responsibility and is an active participant in the work of the DNRP Matrixed Services Unit. It also maintains active representation on the KCGIS Technical Committee and supports the initiatives and operations of that group.

Planned Project Activity and New Projects

Name	**REPMS Customization for Parks**
Description	Development and integration of supplemental data and custom query/display tools with the Real Estate Portfolio Management System. These data and tools will enable Parks managers and staff to locate, retrieve, display, and analyze detailed current and historic property-related information concerning the division's parks, trails, and facilities.
Interdependencies	Reliable operation and availability of the KCGIS Spatial Data Warehouse, the DNRP GIS data server, and ArcGIS 9.x software. Coordination with, and assistance from, the REPMS project team on development, integration, and testing.
Status	In progress.
Target	2007 – End of 3rd Quarter
Activity	▪ Determine the specific data and query/display requirements for Parks which are beyond the scope of the REPMS design. ▪ Design the supplemental database and link it to the main REPMS database and to other data as necessary. ▪ Populate the supplemental database with the required property-related information, using both existing Parks-maintained data and additional data as necessary. ▪ Design and develop the custom query/display tools. Test and refine as necessary to ensure reliable operation and complete compliance with requirements. ▪ Deploy the custom tools and link them with the supplemental database, the main REPMS database, and other data as necessary. ▪ Install the custom tools on the appropriate Parks or KCGIS Center server. Ensure user access to the supplemental database, the main REPMS

	database, and other data as necessary. ▪ Train users on the supplemental database and custom tools. Provide follow-on support and problem resolution as necessary.

Data Enhancement and Development

Name	**MASTRAIL - Master Trails Database**
Description	Development and maintenance of a master trails database which will include all current and proposed trails within King County. Trails data maintained by Parks will be supplemented with data acquired from municipalities, state and federal agencies, and other public and private organizations which maintain recreational trails. A master trails database of this type will support the Division's planning needs by helping to ensure that proposals for new trails and improvements to existing trails are planned with as much knowledge as possible about the overall network of trails in the county.
Interdependencies	Availability of suitable trails data from non-King County jurisdictions and agencies. Reliable operation and availability of the KCGIS Spatial Data Warehouse, the DNRP GIS data server, and ArcGIS 9.x software.
Status	Definition of database requirements and assessment of existing available data are both in progress.
Target	2007 – End of 4th Quarter, for completion of an initial version of a comprehensive trails database. Subsequent maintenance will be on an ongoing basis.
Activity	▪ Develop an initial master trails database template, including all necessary trail characteristics and attributes. ▪ Review and refine this template to create the final database design. ▪ Populate the new database with all King County and non-King County trails data already available and suitable for inclusion. ▪ Contact non-King County jurisdictions and agencies to obtain additional trails data needed to make the database as comprehensive as possible. ▪ Develop and implement a plan for ongoing coordination with non-King County jurisdictions and agencies to obtain updated and expanded trails data whenever they become available. Integrate these data into the database whenever they are received.

Application Enhancement and Development

Name	***Park Info* / *Park Locator* / *ParkView* Application Replacement**

Description	Development of new versions of the existing *Park Info*, *Park Locator*, and *ParkView* applications which will be compatible with the ArcGIS 9.2 environment. These will employ the full range of capabilities and functionality in ArcGIS 9.2 to provide improved and expanded query, display, and mapping capabilities for managers and staff of both Parks and the Facilities Management Division (FMD) of DES, as well as for the general public. This project will be coordinated with similar application replacement projects being carried out by KCGIS Center Enterprise Services staff.
Interdependencies	Reliable operation and availability of the KCGIS Spatial Data Warehouse and ArcGIS 9.2 software. Availability of design and development assistance from KCGIS Center Enterprise Services staff.
Status	On hold, pending completion of higher-priority division projects.
Target	2007 – End of 4th Quarter
Activity	▪ Identify application requirements for the new versions of *Park Info, Park Locator,* and *ParkView*. ▪ Write the new versions of *Park Info, Park Locator,* and *ParkView*, addressing all identified application requirements. ▪ Test each of the new applications using all of the Parks geodatabases, as well as other enterprise data layers typically of interest to Parks and FMD users. ▪ Install the new applications on the appropriate Parks or KCGIS Center server and provide any necessary training and technical support to users.

Name	**ArcGIS 9.2 Production Mapping Application**
Description	Development of a new mapping application within the ArcGIS 9.2 environment to replace existing AMLs used for generating standard and custom map products. This will enable quick, efficient production of the maps which are most often requested by staff from Parks and other county agencies, as well as quicker, more efficient design and production of custom maps.
Interdependencies	Reliable operation and availability of ArcGIS 9.2 and associated application development software.
Status	On hold, pending completion of higher-priority division projects.
Target	2007 – End of 3rd Quarter
Activity	▪ Identify all existing and anticipated standard and custom maps which will be generated using the new mapping application. ▪ Develop new mapping application, providing improved mapping capabilities and user flexibility, as compared to the existing AMLs.

	▪ Test new application to ensure consistent, reliable operation. ▪ Install new application on the appropriate Parks or KCGIS Center server and remove all of the obsolete AMLs from all locations in which they were active. ▪ Train users on the new mapping application. Provide follow-on support and problem resolution as necessary.

Hardware, Software, Database, and Licensing Changes

- None planned.

Staffing Changes

- GIS matrixed staff support was increased from 1.0 FTE for 2006 to 1.25 FTE for 2007.

Other Changes

- None planned.

DNRP – Solid Waste Division

Agency GIS Overview, Priorities, and Goals

- The mission of the Solid Waste Division is to provide transfer and disposal services for solid waste materials in King County, using innovative waste reduction and recycling services and programs to reduce the overall amount of material that must be managed. The division serves residential and non-residential customers, as well as commercial disposal services. Solid Waste maintains nine closed landfills and the Cedar Hills Regional Landfill in Maple Valley, which is the only operational landfill within the county. The division also operates eight geographically dispersed transfer stations and two rural drop boxes. The primary goal of these activities is to conserve natural and renewable resources by providing customers with readily available services and by promoting public awareness of conservation, recycling, and the benefits of participation in the division's programs.
- The Solid Waste Division is comprised of six operational units: the Engineering Services Section, the Finance and Administration Section, the Landfill/Shop Operations Section, the Planning Services Unit, the Recycling and Environmental Services Section, and the Transfer/Transport Operations Section. GIS support is provided to all of these units, as well as to the Division Director's Office, by an allocation of 1.0 FTE. Work assignments are shared among two professional GIS analysts, who are part of the group of GIS analysts providing matrixed support to all DNRP divisions. The Solid Waste GIS analysts are also affiliated with the KCGIS Center Client Services staff and Enterprise Services staff, which enables access to their specialized services and expertise when needed for division projects. The Solid Waste GIS analysts are supervised by the Solid Waste GIS Program Manager.
- The Solid Waste GIS Program supports the division’s managers, staff, and programs with a full range of products and services. These include data development and maintenance, data interpretation and analysis, map design and production, application development and maintenance, Web services, end-user training, and project consulting. The majority of products and services are provided on request to managers and staff of the division’s administrative offices in Seattle. A small but growing number of requests are also handled for managers and staff working at outlying facilities, including the eight transfer stations and the Cedar Hills Regional Landfill. These include maps and reports used for a variety of planning, management, and maintenance purposes.
- The primary strategic initiative for Solid Waste GIS during 2007 is continued outreach to the division to ensure awareness of, and access to, GIS support for all staff and programs which can benefit from its use. This outreach effort is particularly focused on the managers and supervisors at the eight transfer stations and the Cedar Hills Regional Landfill, whose operational environment and project needs differ from those at the division’s administrative offices in Seattle.
- As a relatively small program, Solid Waste GIS must conduct its work in the context of two key cross-agency dependencies. The first of these concerns data maintenance. Although the products and services which this program provides often involve numerous data layers, Solid Waste GIS is not currently the steward of any of these. The accuracy and reliability of its products and services therefore depend upon consistent, timely maintenance of data layers by

other county GIS programs. The second key dependency is that of access to the specialized skills and expertise of the KCGIS Center Client Services staff and Enterprise Services staff. As the products and services of Solid Waste GIS demand the use of increasingly advanced tools and techniques, it is essential for the program's GIS analysts to be able to consult with the staff of these two groups. Both Client Services and Enterprise Services have historically been open, approachable, and very supportive of the needs of Solid Waste GIS. The dependency in this case is one of availability to specific staff at specific times, due to the heavy demands which are placed upon the staff of both groups.

- The Solid Waste GIS Program is both newer and smaller than most other county GIS programs, and continues to focus primarily on growing its clientele and providing division managers and staff with effective, high-quality products and services. As a result, it has to date had a somewhat limited role in the overall KCGIS enterprise. There is a moderate amount of interaction with the other DNRP divisions, primarily through the work of the DNRP Matrixed Services Unit, but there is relatively little involvement in the activities of GIS programs in other departments. Solid Waste GIS also maintains active representation on the KCGIS Technical Committee and supports the initiatives and operations of that group.

Planned Project Activity and New Projects

Name	**Cedar Hills Landfill Complaint Tracking and Mapping**
Description	A new application for recording, tracking, and processing odor, noise, vibration, and bird complaints in areas adjacent to the Cedar Hills Landfill. A spatially-referenced complaint database will be designed and tested, along with a set of new data entry screens to ensure consistent recording of complaints. A set of standard maps and reports will also be developed to display information by area, time period, and type of complaint. Additional project activities may include creating automated processes for custom map generation and for analysis of complaint data.
Interdependencies	Reliable operation and availability of the DNRP GIS data server and ArcGIS 9.x software.
Status	On hold, pending completion of higher-priority Division projects.
Target	2007 – End of 4th Quarter
Activity	▪ Complete definition of system requirements. ▪ Design, test, refine, and deploy standard complaint data entry screens. ▪ Design, test, refine, and populate complaint tracking database. ▪ Train operators on use of data entry screens and update procedures. ▪ Develop set of standard maps and reports for data display and analysis.

Name	**Illegal Dumping and Abandoned Vehicle Tracking, Mapping, and Analysis**

Description	Development of an automated system for entering and processing illegal dumping complaints and reports of abandoned vehicles in a spatially-referenced database. Planned work includes database design and development, creation of a standard data entry interface, and automated processes for map creation and data analysis.
Interdependencies	Reliable operation and availability of the DNRP GIS data server and ArcGIS 9.x software.
Status	On hold, pending assessment of existing system elements and determination of remaining work necessary to develop missing elements and integrate all of the pieces into a complete system.
Target	2007 – End of 3rd Quarter
Activity	▪ Complete assessment of existing system elements and determination of remaining development and integration work necessary to complete the system. Assess additional requirements related to locating and disposing of abandoned vehicles. ▪ Design, test, and implement database refinements. ▪ Design, test, refine, and populate abandoned vehicle database. ▪ Design, test, refine, and implement standard data entry interface. ▪ Complete needs assessment and definition of system requirements for automated map creation and data analysis applications. ▪ Design, test, refine, and deploy automated map creation and data analysis applications. ▪ Provide training as necessary to division staff.

Name	**New Transfer Station Siting Analysis and Mapping**
Description	Identification, analysis, and mapping of potential candidate sites for proposed new transfer stations in various areas of King County, based on search criteria established by division and project managers. This will be a new phase of work for a project which was active during 2003 and 2004 but which has since been on hold. The division's need for new and additional transfer station capacity continues to grow rapidly enough that renewed analysis of potential sites is expected to be necessary during 2007. As before, this process will be supported by site analysis and selection, as well as production of maps and reports for the sites chosen.
Interdependencies	Reliable operation and availability of the KCGIS Spatial Data Warehouse, the DNRP GIS data server, and ArcGIS 9.x software.
Status	On hold, pending direction to proceed from division management.
Target	2007 – End of 4th Quarter

Activity	▪ Conduct site analysis and selection, based on criteria established by division and project managers. ▪ Design and produce maps and reports illustrating and describing suitable candidate sites.

Data Enhancement and Development

Name	**Address Data Development for Targeted Mailings**
Description	Development of detailed address data for populated areas of King County based on US Postal Service mail carrier routes. An application will be developed to process monthly updates of tabular carrier route data and generate a spatial layer of the areas covered by each carrier route. This spatial layer will be maintained by SWD GIS staff on an ongoing basis, and will be linked to the KCGIS parcel layer and KCA-maintained parcel attribute data. These developments will enable address searches and compilation of mailing lists which focus on specific areas of the county which the division has targeted for distribution of mass mailings of educational and outreach materials, as well as legally-required notifications to property owners.
Interdependencies	Availability of US Postal Service monthly updates of tabular carrier route data. Reliable operation and availability of the KCGIS Spatial Data Warehouse, the DNRP GIS data server, and ArcGIS 9.x software. Coordination with, and assistance from, Client Services and Enterprise Services staff on development, testing, and data linkages.
Status	In progress.
Target	2007 – End of 1st Quarter, for development and testing of the data processing application, and for completion of the initial version of the carrier route spatial data layer. Subsequent data maintenance will be on an ongoing basis.
Activity	▪ Determine the process necessary to convert tabular carrier route data into a spatial data layer. Determine the preliminary design for the spatial data layer. ▪ Develop and test an application to automate this processing, using a sample set of carrier routes within specific zip codes. Refine the application as necessary to achieve consistent, reliable performance. ▪ Process tabular carrier route data covering the entire county to generate the initial version of the spatial data layer. Revise the design of the spatial data layer as necessary. Initiate ongoing maintenance of the spatial data layer on a to-be-determined update frequency. ▪ Establish all necessary links to the KCGIS parcel layer and KCA-

	maintained parcel attribute data to enable address searches and compilation of mailing lists focusing on specific areas. Test all links to ensure consistent, reliable operation. ▪ Provide training and technical support as necessary to SWD GIS Analysts.

Name	**HAZUS-Related Data Development**
Description	Identification, analysis, and mapping of HAZUS-related data layers for use in SWD disaster response planning. These data will be used to identify: 1) Areas of high, medium, and low risk for large volumes of debris generation from earthquakes, windstorms, and other major disasters; 2) Suitable sites for temporary disposition of disaster-generated debris; 3) Suitable sites for permanent disposition of disaster-generated debris; and 4) Availability of infrastructure (e.g., roads and bridges) in adequate post-disaster condition to be usable for transporting large volumes of debris to disposition sites. Estimated volumes of debris to be expected in different types of areas resulting from various types of disasters will be calculated using HAZUS software from the Federal Emergency Management Agency.
Interdependencies	Availability of adequate, suitably-detailed data for: 1) Property, infrastructure, zoning, and related site search criteria; 2) Risk levels for damage and debris generation; 3) Structure type and density; and 4) Forest species and density. Applicability of HAZUS modeling software to King County's complex urban and rural geography and to the types of disasters most likely to occur in this area. Reliable operation and availability of the KCGIS Spatial Data Warehouse, the DNRP GIS data server, and ArcGIS 9.x software.
Status	In progress.
Target	2007 – End of 4th Quarter
Activity	▪ Complete research into the adequacy of available data for calculating debris volumes and the applicability of the HAZUS modeling software. ▪ Acquire all suitable available data for: 1) Risk levels for damage and debris generation; 2) Structure type and density; and 3) Forest species and density. ▪ Conduct initial modeling of data for areas of highest anticipated risk of high-volume debris generation. Evaluate validity of results. Determine whether to proceed with additional modeling runs. ▪ Conduct additional modeling as appropriate for all areas for which adequate suitable data have been acquired. ▪ Estimate debris volumes likely to be generated for all areas modeled. ▪ Establish capacity criteria for sites needed for temporary and permanent

	disposition of disaster-generated debris, using these volume estimates. ▪ Conduct site analysis and selection, based on these capacity criteria. Refine criteria and re-run site analysis and selection as necessary. ▪ Design and produce maps and reports illustrating and describing suitable candidate sites.

Application Enhancement and Development

Name	**ArcGIS 9.2 Web Mapping Application Development**
Description	Design, develop, and implement ArcGIS 9.2-based Web mapping applications to replace existing SWD Web mapping services for garage/yard sales, reusable material exchange sites, and King County-operated transfer stations.
Interdependencies	Reliable operation and availability of the KCGIS Spatial Data Warehouse, the DNRP GIS data server, and ArcGIS 9.2 software.
Status	On hold, pending review of the existing SWD Web mapping services and evaluation of ArcGIS 9.2's tools and capabilities for developing satisfactory replacements.
Target	2007 – End of 4th Quarter
Activity	▪ Review capabilities and limitations of the current Web mapping applications and develop a list of necessary and desirable improvements for each. ▪ Design and develop the suite of new mapping applications in the ArcGIS 9.2 environment, incorporating all possible improvements identified for each. ▪ Test, refine, and implement each of the new mapping applications. ▪ Provide training and technical support as necessary.

Hardware, Software, Database, and Licensing Changes

- None planned.

Staffing Changes

- None planned.

Other Changes

- None planned.

KCGIS PRIORITY WORK INITIATIVES

In concert with development of the annual GIS O&M plan, the KCGIS Technical Committee identifies priority work initiatives to pursue in the upcoming year and beyond. The priority initiatives described here represent a continuation of efforts begun in earlier years and new work that has recently become a focus.

The Technical Committee generally pursues work initiatives that can be accomplished using existing staff and budget resources. The bulk of the work is carried out by KCGIS Center staff allocated to support the priority initiatives. For 2007 the support level from the KCGIS Center is approximately 3.0 FTE. An important factor in successful completion of the priority work initiatives is contribution from staff in the agency GIS units. Therefore, Technical Committee members acknowledge a commitment to provide access to key staff within their agencies to help ensure objectives of the priority work initiatives are met.

In order to provide guidance to the KCGIS Center on how to allocate resources among the priority initiatives the Technical Committee conducts an advisory vote. Each member of the committee is allowed to indicate up to six initiatives that they want the KCGIS Center to focus on. Twelve committee members participated in the vote. Authoritative Property Address Data (D-4) received the most votes with twelve. First Annual Aerial Imagery Acquisition Plan (D-6) received eleven. Cadastral Accuracy Improvements (D-5) received eight. Authoritative Street Centerlines Data (D-1) and Authoritative City Boundary Data (D-2) each received seven. Collaborative Cadastral Data Maintenance Feasibility Study (O-1), GIS Application Development Coordination and Facilitation (A-1), ArcGIS Server Application for Address Data Maintenance and Distribution (A-2), King County Web Mapping Services Compendium (A-5), and Authoritative Points-of-Interest Data (D-3) each received four. Parcels with Onsite Septic Systems Data Development (D-7) received three. GIS Training Curriculum Development (O-2) and Census Data Analysis Tools Assessment (A-3) each received two. Finally, ArcGIS Server Application for the Mitigation Reserves Program (A-4) received no votes.

The work initiatives are managed by the KCGIS Center. Regular and periodic project reporting to the Technical Committee is required. Project status is summarized and provided to the Oversight Committee in a quarterly report.

O-1 Collaborative Cadastral Data Maintenance Feasibility Study

Background: Several cities, as well as King County, are actively engaged in maintaining parcel data layers to support many of their core services. As of now, there is little or no coordination of effort, and there is much duplication of effort to maintain this information. Maintained parcel datasets are discrete, non-standard, and overlap with the county's data or adjacent cities. This results in inefficiencies in developing, maintaining, and using these important data resources. In addition, there is no comprehensive understanding of the parcel mapping activities that are underway. Given the importance of parcel mapping for effective delivery of local government services, there should be consideration of creating a model for collaborative maintenance of a single parcel dataset for King County.

Objective: The KCGIS Center will complete a feasibility study for collaborative, cross jurisdictional maintenance of parcel data for King County by investigating the current status of cadastral mapping efforts. This will be done through a survey and interview process with the cities currently engaged in parcel mapping activity. From these interviews a set of recommendations for a path leading to collaborative maintenance will be developed. The

interview process will be completed in 2007 and a report with recommendations forwarded to the KCGIS Technical Committee.

O-2 GIS Training Curriculum Development

Background: Providing specialized GIS training was identified as a key component of the GIS Software Migration Project. Work began in 2004 to develop a training curriculum to support the migration, and this effort was soon expanded to meet a broader goal of developing a comprehensive training program for all categories of KCGIS users. The result was creation of a training plan first published in 2005 and revised in 2006. This plan describes a curriculum that includes 29 courses. To date materials have been completed for seven courses, and five more are under development. While the Software Migration Project closes at the end of 2006, the Technical Committee recognizes the need to complete the training curriculum and to continuously update the training materials. Therefore, the GIS Training Workgroup will remain active into at least 2007.

Objective: Develop an ongoing and relevant GIS education program that empowers current and potential users of GIS technology. The training curriculum will be modular, customized, and geared towards specific categories of GIS users. In 2007, the GIS Training Workgroup will complete an annual update to the Training Curriculum Plan, and forward new recommendations to the Technical Committee. The workgroup will continue development of training material with a goal to complete at least four to six more courses in 2007.

A-1 GIS Application Development Coordination and Facilitation

Background: Software application development is pursued separately within the GIS programs of several county agencies. Given this environment, application development benefits from communication where programmers share knowledge, skills, ideas, and code. At another level is collaboration among developers which involves peer review, joint development efforts, coding and technology standards, and sharing of application requirements. In 2006 the GIS AppDev Group was tasked with developing a set of communication and collaboration protocols to be followed by GIS programmers. Work on these protocols will continue in 2007. In addition, to gain further efficiencies the Technical Committee has identified the need for an application digest and repository. The digest would essentially be an electronic catalog of King County's custom GIS applications, with an associated repository for application documentation and code.

Objective: The GIS AppDev Group will complete development of a set of procedures and protocols for communication and collaboration by GIS programmers within King County. The group will also assist the KCGIS Center in designing, developing, and populating the KCGIS Application Digest and Repository.

A-2 ArcGIS Server Application for Address Data Maintenance and Distribution

Background: In 2006 King County submitted a grant proposal to receive hardware and software to support development of an ArcGIS Server based web interface. This interface would allow addressing authorities throughout the county to easily submit their address additions, deletions, and updates into a single authoritative countywide address data resource (the newly created E911ADDRESSPOINT data layer). Unfortunately the grant was not awarded, but even without the hardware and software it is still feasible to proceed with development of the web interface. Early participants in the project will include King County agencies and as many as three outside addressing authorities.

Objective: A multi-agency development team will implement an ArcGIS Server application to support maintenance and distribution of the authoritative E911ADDRESSPOINT database. The

team, led by the KCGIS Center, will guide the project through the application development lifecycle. Functional requirements will be identified, the web interface will be designed, tested, and debugged, and the application will be deployed to the addressing authorities.

A-3 Census Data Analysis Tools Assessment

Background: The United States Census Bureau is making dramatic changes to the content and format of the demographic data that it releases. These changes will require development of a new set of customized GIS tools in order to analyze and display this valuable information. Some new data will become available before the 2010 census, and King County can begin now to plan for their release. In late 2007 the Technical Committee will start this planning process by investigating the implications of developing GIS tools to handle the new census data.

Objective: Late in 2007 a workgroup will be formed, with the county's demographer as the lead. This group will investigate and assess the issues involved in developing GIS analysis and display tools for use with the 2010 census data. This investigation should at a minimum identify the interested stakeholders, conduct an analysis of the new census data structures and content, review the current King County Census Viewer for its ability to be adapted to work with the new data, and develop a list of functional requirements for a rebuilt or entirely new census viewer application.

A-4 ArcGIS Server Application for the Mitigation Reserves Program

Background: The Mitigation Reserves Program is a policy tool available to the county to help alleviate the adverse effects of land development. Under certain conditions this program allows for the matching of a sending site (that is the development site) with a potential receiving site (an area that will benefit from habitat protection or restoration). A web-based GIS application could be developed to assist in matching the characteristics of sending sites to appropriate receiving sites. In order to match sites, the application would need to employ analysis models based on complex defined criteria. These analysis models cannot be run in ArcIMS based applications, but the new ArcGIS Server technology provides functionality that can overcome this limitation.

Objective: A multi-agency development team will complete implementation of an ArcGIS Server based application to support the Mitigation Reserves Program. This application will assist users in finding receiving sites that meet the subject property's sending characteristics, and will track and match sites from DDES that have off-site mitigation needs with ecological sites (natural lands) that need restoration work done.

A-5 King County Web Mapping Services Compendium

Background: The KCGIS Center, in coordination with King County agencies, has developed and deployed highly popular enterprise web mapping applications such as iMAP and Parcel Viewer. Agency specific web mapping services have also been deployed by the KCGIS Center and others. New technologies developed by private firms such as Google are making it easier to deploy interactive web maps, and a handful of county agencies are experimenting with these tools. Web mapping services are among the most sought after resources on the county's website and surveys indicate the public wants geographic resources like these more than other kinds of web content. However, with the proliferation of King County web mapping services the typical user may have difficulty sorting through and locating the appropriate services for their needs. To make it easier for the user, and to improve public service, a compendium page could be compiled that would be a one-stop location to learn about and link to all of the county's map services.

Objective: Develop a King County mapping services compendium page that would be available from the county's Internet home page. This compendium page will contain descriptions of the various county web mapping services and provide links to each service. A procedure will be developed to keep the compendium up to date as more mapping services are brought online. Once the compendium page is in place other ideas will be explored to see how the user's interactions with King County's many mapping applications can be improved.

D-1 Authoritative Street Centerlines Data

Background: Near the end of 2006 the migration of King County's cadastral data from coverage (RECDNET) to geodatabase (KCAM) will be complete. In the same timeframe the new TNET database will be deployed by Transit. These new datasets will replace the county's current sources of street centerline data. As they vary significantly from the sources they are replacing, reworking of work flows and end user applications will be necessary. For instance, the editing workflow for the cadastral based street centerline data layer known as ST_ADDRESS will need to be altered to accept updates from KCAM rather than RECDNET. As the changeover to the new data source occurs, the opportunity should be taken to ensure that not only is the integrity of ST_ADDRESS maintained, but that the layer is still fulfilling its intended purpose and is clearly distinguished from TNET. TNET, which is a representation of the multi-mode transportation network, is a significant departure from its predecessor (KCSN). KCSN will be retired and a transition to TNET and its many derivative data sets will need to be made.

Objective: Clarify the content and business role of ST_ADDRESS and establish a new editing work flow and update cycle. Ensure that any KCSN based applications are migrated to make full use the new TNET data. Develop adequate descriptive metadata for ST_ADDRESS and TNET, and retire any street network depictions that are not based off of these data sources. Develop cartographic representations for both ST_ADDRESS and TNET for use at typical scales and general mapping purposes.

D-2 Authoritative City Boundary Data

Background: City boundary data are maintained by a handful of King County agencies. The content and geometry of these data layers differs, and none of them accurately depict the city boundaries as they by state law extend into adjacent bodies of water. This new layer will merge disparate city boundary maintenance regimes at DDES and Assessments into a single design, and will enable law enforcement and other public safety entities to determine jurisdiction over incidents that occur in navigable waters.

Objective: In 2007 the KCGIS Center, in coordination with agency data stewards, will complete development of a consolidated city boundary layer. This will include delineation of jurisdictional boundaries into adjacent water bodies based on an agreed methodology.

D-3 Authoritative Points-of-Interest Data

Background: Several county agencies maintain data layers depicting landmarks, facilities, and other locations that might be commonly referred to as points-of-interest. There is currently no coordination between agencies for maintaining this information, which results in inconsistencies in coding, and gaps and overlaps in content. The need for a common or shared points-of-interest layer has been examined in the last couple of years, but a clear consensus for how to proceed has not emerged. In 2007 a limited prototype will be developed that may lead to a more full implementation of a shared maintenance regime for a common points-of-interest layer.

Objective: In 2007 the KCGIS Center, in coordination with agency stakeholders, will develop a prototype points-of-interest data layer from a restricted inclusion list, to initially include key KCGIS Center layers (e.g. FIRESTN, HOSPITAL, and POIPUB) and at least one or two agency contributions. The prototype will contain a multi-tier attribute model to handle differing agency business requirements, and will also model actual location versus parcel and intersection-based location offsets. Standard operation procedures will be developed to address multiple editors, including primary domain assignments and mechanisms for quality assurance. Pending the outcome of the prototype, a more complete model may be implemented.

D-4 Authoritative Property Address Data

Background: Several county agencies maintain property address information as an important dataset supporting their core business needs. Verifying addresses and keeping up with property address changes is a time consuming and error prone task. This task is made more difficult because agencies lack an authoritative reference source for addressing data. The E-911 GPS addressing project, due to be completed in 2007, will result in the most complete and accurate accounting of addresses in King County ever complied. This new dataset can provide the building block for creating an authoritative address layer which will serve the needs of multiple county agencies. There is also an opportunity to implement a set of best practices to streamline the update of addressing data, replacing the often archaic processes that are currently used.

Objective: The Authoritative Address Workgroup will work in partnership with the E-911 Program Office and other county agencies to establish the authoritative addressing database. The workgroup will develop and implement a work flow and address verification process to ensure the database is maintained to the highest standard. Guiding principles will be developed outlining expectations, roles, and responsibilities of the various addressing authorities as well as the county agencies using the database.

D-5 Cadastral Accuracy Improvements

Background: The positional accuracy of King County's parcel data varies. Some areas are of obviously poor quality and need improvement to align with more accurate data collected by GPS or survey methods. Several cities are displeased with the county's parcel data and have sought positional improvements on their own. In 2006 an agreement between the City of SeaTac and the Department of Assessments resulted in a pilot project to collaborate to adjust parcel boundaries in a limited area. Further collaboration with cities and more staff resources are needed to effectively tackle this problem.

Objective: The KCGIS Center and the Department of Assessments will continue to work together to identify opportunities to improve the positional accuracy of the parcel data. The pilot project with the City of SeaTac will be completed. Other cities will be contacted to determine their interest in similar efforts. The details of a proposal by the Wastewater Treatment Division to provide staff resources will be finalized and work will begin on positional improvements targeted to selected areas to better align parcel data to wastewater conveyance data.

D-6 First Annual Aerial Imagery Acquisition Plan

Background: In 2007 King County will establish a reserve fund for the purpose of acquiring aerial imagery on a regular basis. With the establishment of the reserve fund, $200,000 will be available in 2007, and $200,000 will be added to the fund in each subsequent year. The Technical Committee intends to use the fund to acquire imagery in 2007. For this is to occur a plan needs to be in place, and decisions made to proceed, by February or March. Planning also needs to begin for any acquisitions in 2008 and 2009.

Objective: The Imagery Workgroup will develop a proposal to acquire aerial imagery in 2007 and forward it to the Technical Committee. This proposal will take into account opportunities for collaboration and partnership with local, regional, state, and federal agencies. The proposal will include all the necessary documentation for the county to prepare an RFP for imagery to be acquired in the late spring or early summer of 2007. If the proposal is accepted, the Technical Committee will ask the KCGIS Oversight Committee for approval to move forward with the acquisition. Once the work on a possible 2007 acquisition has been completed the workgroup will begin planning for acquisitions in 2008 and 2009.

D-7 Parcels with Onsite Septic Systems Data Development

Background: Several agencies have identified a need for data depicting parcels with onsite septic systems. Developing this data set may be problematic as there is no clear understanding of the quality and completeness of possible source material. Initial work needs to be done to determine the feasibility of developing a parcel-based septic system inventory that would meet minimum data quality standards.

Objective: The KCGIS Center with assistance from interested agencies will conduct a scope of the available data sources. Based on this research a methodology for developing the data will be formulated and a recommendation for how to proceed forwarded to the Technical Committee.

2007 Digital Aerial Imagery Plan

2007 is the first year that dedicated funding is budgeted for countywide digital aerial imagery acquisitions. With that funding ($200,000 annually with potential for carry-over from year to year) the county can begin to make strategic acquisitions of what has become an essential commodity for the conduct of local government functions. Further, this seed can provide the foundation for establishing a regional leadership role in coordinating the imagery needs of the great number of public agencies serving King County.

In 2007 a grant from the US Geological Survey ($50,000) will add to the funds potentially available. These funds come with a commitment to provide a set of public domain imagery to USGS for inclusion in the National Map. Additionally, partner agencies may contribute funds, thus raising considerably, the annual budget. It should be noted that if it becomes necessary to expend more than $200,000 in one year additional spending-authority must be granted by the King County Council.

The annual imagery plan details the specifications for countywide imagery to be acquired in 2007 and processes needed to ensure continuity of the program for coming years. The plan consists of a summary of goals, a schedule of work, and technical specifications. Because of the time needed to develop this first plan the program for 2007 may lag somewhat behind the timeline established here. Development of the process described has been done by the Digital Imagery Workgroup of the King County GIS Technical Committee. This workgroup will continue to oversee and execute the conduct of the annual program.

Because of the large number of public agency jurisdictions lying within the boundaries of King County, a special condition exists whereby the citizens of the county may be paying for redundant and/or inconsistent acquisitions because of uncoordinated and overlapping photo missions. The county is in a unique position to serve its citizens by providing leadership in developing a mechanism to allow agencies within the county to cooperate on obtaining acceptable imagery consistently, thereby reducing cost and increasing usability for all. Therefore, it is a primary aim of the work group, through the KCGIS Center to structure a straight-forward mechanism for any public agency to join in planned imagery acquisitions and share equitably in the cost.

Goals

Acquire reliable and timely imagery consistently, predictably, and cost-efficiently to support county operations.
Actively seek agency partners for cost sharing.
Provide a straight-forward procedural mechanism to partner with other agencies.
Provide a means of coordinating regional agencies (those having a stake within the county) to provide greatest usefulness, uniformity and economy of all acquisitions.

Schedule

The workgroup will pursue the annual imagery program on the following schedule.

- Needs Determination – (June/July 2006)
    - The workgroup will develop proposed specifications from member input and discussion. The specifications will address coverage areas, imagery type, resolution, delivery format and other technical details.
    - Canvass technical committee members for changes to the proposed specifications.
    - Canvass agency partners for changes to the proposed specifications.
- Annual Specification Development (September 2006)
- Approval by Technical and Oversight Committee (October 2006)
- Inclusion in King County GIS O&M Plan (November 2006)
- RFP development (by January 2007)
- RFP evaluation and selection (by Mid February 2007)
- Project Performance (March-July 2007)
- Product Delivery (June-December 2007)

Technical Specifications (2007)

Project Approach

Unless there is a defined need to the contrary, it is presumed that all imagery will be acquired with digital sensors and high-quality airborne GPS.
In an effort to partner with cities that seek “leaf-off” imagery the county will pursue a split flight strategy for 2007. This may not be achievable. The geographic conditions of King County make it practically impossible to obtain acceptable “leaf-off” imagery of the entire county at one time. At our latitude, large-area imagery cannot be flown effectively in winter due to the low sun angle. This means photos cannot be captured prior to the second week of March. “Leaf-out” may begin to have detrimental effect soon thereafter depending on the weather conditions. Clouds, rain, or other conditions may also preclude flying prior to “leaf-out”. It is almost a certainty that leaf-out will be complete before snow retreats from the higher elevations. Hence, if we can partner with other agencies requiring leaf-off photos, we will fly the western High Resolution portion (i.e., except the special interest areas) in leaf-off condition and fly the Low Resolution areas for summer exposure (target solstice capture for optimum illumination).
The Imagery Work group will develop and advertise a Request For Proposals (RFP) for professional services. This advertising for professional services requires selection of the most qualified proponent rather than the lowest cost.
Prior to advertising the RFP, the workgroup will develop an evaluation process and criteria for ranking proposals

Project Area

The image on the following page shows the defined High and Low resolution capture areas, which are basically the west-county and Skykomish/Snoqualmie special interest areas (High) and the east-county (Low). A squared off portion of Snohomish County will be acquired if "leaf-off" imagery is obtained. If not, we will rely on the Snohomish County project to provide that coverage and avoid unnecessary redundancy.

High resolution areas will acquire imagery to support nominal 3" to 6"pixel resolution ortho-photo production, dependent upon cost and partner contribution. High resolution imagery for the "special interest areas" will overlay (not supplant) the low resolution coverage of those areas.

Low resolution areas will acquire imagery to support nominal 12"pixel resolution ortho-photo production.

Imagery Type

The county will obtain vertical photography in 2007 and pursue oblique imagery in 2008 (dependant on financial constraints). If "leaf-off" acquisitions are viable the Imagery Workgroup proposes to alternate between "leaf-on" and "leaf-off" acquisitions subject to input during the annual needs assessment.

Delivered Product

The following products will be delivered:

Oriented Stereo Imagery ("RAW Images")

Delivered oriented stereo-imagery will support a 95% circular positional accuracy of +/- 1 foot Global accuracy. All imagery will be controlled based on HPGN 83/91 Washington State Plane Coordinate System North Zone and delivered in that projection.

RAW Images will be delivered with an orderly file naming convention representative of the flight/photo-acquisition order.

RAW Images will be delivered in uncompressed TIFF format as full spectrum 12 bit images and as 8 bit RGB files compatible with BAE SOCET SET photogrammetry software.

Oriented stereo-imagery along with all supporting data files (control, IMU, GPS, etc) shall be delivered within 2 months of the completion of the flight.

Ortho-Rectified Imagery

Imagery will be rectified using the county supplied King County LiDAR data set.

Final ortho-imagery will support a 95% circular positional accuracy of +/- 1 foot (global accuracy) dependent on auto processed LiDAR rectification.

Orthoimagery will be submitted to King County for quality evaluation within four months of photo acquisition. Final delivery will be made by Dec 31, 2007.

KCGIS Center will perform MrSID compression and mosaic to higher tiling levels.

Actual pixel size shall be of a dimension that will mosaic exactly into 7500', 3750', or 1875' tiles.

Exact pixel size values shall not exceed two decimal places (e.g. 3.52 exactly not 3.519 or any repeating values), thus "one third of a foot" pixels are not acceptable.

Imagery will be delivered in standard King County 7500 foot tiles named using the county naming convention.

All imagery will be delivered on two Network Attached Storage type devices one for raw images, and one for ortho-rectified images.

Agency Coordination

The Imagery Workgroup, under the auspices of the KCGIS Center, will develop a model inter-local agreement to enable partner agencies to acquire imagery that meets their needs from the county acquisitions and to contribute funds equitably.

Appendix I – DNRP Web Operations & Coordination Plan

2007 DNRP Web Operation and Coordination Plan

DNRP Web Coordination Committee

Revision 1
January 22, 2007

King County
Department of
Natural Resources and Parks

2007 DNRP Web Operation and Coordination Plan

Introduction:

The purpose of this plan is to lay out and document the DNRP Web development, coordination, design and maintenance plan for the DNRP department and the related divisions and agencies. This document will include the organizational structure, budgetary, strategic, technical, visual presentation and coordination aspects.

Organization:

The KC Department of Natural Resources & Park (DNRP) Web program is a coordinated program of department agencies working in partnership with the DNRP/WLR GIS/VC & Web unit. It is the department enterprise Web coordination and service provider. The program is aligned with the County Executive's vision for King County's Web site to be a coordinated premier operation in the region.
The DNRP Web program's enterprise operations are housed in the same physical location/floor as the DNRP Director's office and are structured as a departmental/divisional service program managed by WLRD. The DNRP Web program is based on the imperative that coordination and collaboration occur among DNRP Web and Public Affairs programs within the department and with other KC departments, ITS and the office of the Executive, and external partners. This interaction includes most aspects of the site architecture, page and application design, content, meta content, linkage and server coordination. The DNRP Web program is also based on the premise that the DNRP site is the primary means of public access to department services and comprises the department's face to the public, is a core asset of the DNRP programs and every effort is made to freely share and systematically improve the DNRP site communications internally and externally.
The enterprise operations provided by the DNRP Web program are funded by more than 5 departmental/divisional agencies and regional partners based on a sophisticated cost allocation model. Business-specific Web services are typically provided by division and agency web programs, however when service by a division/agency Web unit is not feasible or practical, the DNRP Web program offers services with available resources on a cost reimbursable basis.
The DNRP Web lead/coordinator is the responsible staff who reports to the DNRP/WLR GIS/VC/Web manager, with accountability for the DNRP Web program and technical Web representative for the department. Co-operation between the DNRP/WLR GIS/VC/Web manager and DNRP Communications Manager ensures the DNRP department goals are met. Supporting the DNRP/WLR GIS/VC/Web manager in overseeing the program is the DNRP webmasters Committee, which includes representatives from 5 agencies and is organized and led by the DNRP Web coordinator.

DNRP Web Coordination Committee

The DNRP Web Coordination Committee is a coordination committee responsible for setting the direction of the DNRP and the related divisions/agencies web programs. Responsibilities of the DNRP Web Coordination Committee include:

- Coordinate DNRP Web program and agency Web programs and develop an operations and maintenance plan for committee adoption, within the framework of Dept. Public Affairs plans and overarching enterprise Web plans.

- Develop and establish Web protocols, standards, production systems, and best practices for DNRP Web programs, and recommend for countywide adoption by ITS and the office of the Executive.

- Advocate and seek support for system improvements that meet the needs of the department, divisions and programs.
- Recommend Web policy to Web Representatives Committee for countywide adoption.
- Monitor the use of approved Web standards and best practices and moderate resolution of issues.
- Inventory existing Web data and applications and coordinate data and application development efforts.
- Provide a forum for discussion of emerging Web technical issues and address programmatic issues.
- Invite subject area specialists such as security experts, server and network admin staff, database administrators, public involvement experts, and others to inform decisions.
- Educate agencies about the value Web operations will add to business practices.

Membership in the DNRP Web Coordination Committee is based on the presence of a DNRP division and the director's office. Presence of a work program is defined as an agency owning. Each agency with a discrete Web work program is granted one seat on the committee. The following table lists the 6 agencies to be represented on the committee in 2007.

DNRP Director's Office
WTD
WLRD
SWD
PARKS
GIS CENTER

The membership of the DNRP Web Coordination Committee is updated as needed based on division/director's office assignment. At its discretion the DNRP Web Coordination Committee may create work groups for detailed analysis of significant organizational and technical issues. The work groups are created to accomplish a set of objectives and the DNRP Web Coordination Committee reorganizes or disbands the work groups as needed.

DNRP Web Program

Vision: King County citizen access to needed, high-quality services anywhere, anytime.
Purpose: Connect with citizens and provide accessible, effective environmental services, news, applicable tools, guides and resources to inspire environmentally responsible behavior and healthy recreational opportunities.
The DNRP Web Coordination Program provides enterprise services and coordination for the DNRP division/agency Web programs, revenue-based web design/maintenance services to regional partners or customers such as the department Director's office, WLRD, Parks, and Washington State Shorelines program and WRIA programs, and other agencies based on request and available resources. The DNRP Web work program is developed under the supervision of the DNRP/WLRD GIS/VC/Web unit manager and with guidance of the DNRP Web Coordination Committee.

Responsibilities of the DNRP Web Program include:

- Coordinate DNRP Webmasters' Committee meetings and agendas.
- Represent DNRP technical Web needs and issues to King County Web Representatives committee.
- Coordinate Web issues and services with regional partners such as cities, State of Washington agencies, non-profit organizations and others connected in the Web community.
- Manage department level Web structure, sites and pages in coordination with dept. Public Affairs, King County ITS and divisions.
- Provide technical, design and architecture review of new Web sites, applications and pages.
- Review, distribute, monitor and respond to Web-based public correspondence.
- Promote and provide public access to program services and resources.
- Facilitate integration of quality controlled agency sites and pages into the DNRP, county and other public Web sites.
- Coordinate with agency Web programs to ensure that Web maintenance occurs on schedule.
- Comply with the county Web standards and best practices approved by the county Web Representatives Committee.
- Establish benchmarks and report Web performance to Web and communications programs, and management.
- Promote unique regional Web services in coordination with department programs.
- Provide guidelines, specifications and administrative consultation for Web software and contract services.
- Provide Web developer orientation and training services.
- Provide Web expertise and backup support to agencies as requested.
- Report maintenance problems to DNRP Web developers and Public Affairs management.
- Coordinate the evaluation of technical options with agency Web programs and the King County Web Representatives Committee.
- Monitor trends, developments and opportunities in the Web field, communicate and promote among Web-related staff and managers.
- Advocate for strategic Web-related interests to balance the needs of customers with business imperatives of programs, divisions and the county.

- Develop and maintain Web sites, applications and pages.

Budget and Funding

The following table outlines the approved 2007 budgeted funding for operation and Coordination of the DNRP Web Program. It shows each agency's contribution to the DNRP Web Program funding model, as well as each agency's projected budget for revenue-based client services.
*additional fte's are assigned at the division level

2007 DNRP Web Program Budget and Revenue Allocations

Agency Name* (LowOrg)[1]	FTE	COST	Sub Total
DNRP Web coordination, maintenance and development. -- internet.	0.5	To be updated per 2007 cost (TBU)	TBU
DNRP director's Office Web Services (7546)	0.25	TBU	TBU
WLRD Web Coordination & WRIA Web Services	0.5	TBU	TBU
Parks Division Web Services (1501)	0.2	TBU	TBU
Shoreline Master Plan Web Services—WA State funded (2991)	0.25	TBU	TBU
Total:	1.7	TBU	TBU

Challenges:

The publishing system and template will change and our site will require a complete restructuring and redesign to migrate it to a Web Content Management System. New data-intensive sites will be developed integrating charts, data, and interactive maps using XML and XSLT. Protocols and minimum service levels for Web hosting, enterprise search, SQL server hosting, Web usage statistics and related services have never been established and should be addressed. GIS and Web will become more tightly integrated to enable direct provision of services and information to King County residents, and enable integration with city partners. We plan to implement and interconnect Google Maps. Various managers are interested in providing multilingual information. Web and CRM e-mail systems may become more tightly integrated to enable stronger e-government communication with greater self-management of public e-mail lists. Public Affairs needs a new video sub-site and DNRP home page redesign to integrate it seamlessly.

Future Plan:

Major efforts include:

- Migrate Web site to WCMS and applications to common look & feel;
- Develop King County Environmental Indicators Web site integrating Flash, Interactive maps, and XML;
- Plan Salmon Recovery Verification and Accountability System and Web site;
- Support implementation of a new county site search engine;
- Extend the DNRP Web style guide and distribute;
- Establish Web site change management scope and protocols;
- Upgrade Web server;
- Implement Google Maps;
- (Potential) publish multi-lingual Web pages

Divisions & Agencies

All aspects of the DNRP Web program are coordinated through the DNRP Web Coordination Committee and are addressed by active agency participation. Agency Web programs work together via the DNRP Web Coordination Committee. An agency's responsibilities to the DNRP Webmasters' Committee include:

- Develop and submit a work plan for review and inclusion in the Web Operations and Coordination Plan. The plan may be updated quarterly as needed to adapt and adjust to current demands.
- Develop and maintain Web content necessary to support agency business needs, and when compatible, the needs of other stakeholders.
- Articulate agency Web business needs to the DNRP Web community.
- Comply with KC/DNRP standards and best practices approved by the county Web Representatives Committee and Webmasters' committee.
- Ensure all agency pages appropriate for publication are integrated into the KC/DNRP Web site.
- Actively seek opportunities for cross-agency collaboration on common Web site and application projects.
- Ensure development and maintenance tasks are quality controlled and are completed on schedule.
- Ensure agency Web personnel maintain sufficient levels of professional expertise.
- Work cooperatively in support of the regional Web services vision.
- Actively participate on Web committees and work groups as needed.

I. DNRP Director's Office

Public Affairs Program overview

The Public Affairs manager represents DNRP's Public Information concerns to the King County Web Representatives Committee, is responsible for reviewing and coordinating Web content on the DNRP site and approving its publication, and owns/maintains portions of the DNRP Web site including news releases and sites located on the server under http://dnr.metrokc.gov/dnrp. The Public Affairs group typically responds to emerging needs on behalf of the department, at times without advance preparation or warning.

General Needs

The public affairs program will continue to focus on implementing the DNRP Director's office strategic plan, including building on its video and multimedia based outreach. Special emphasis will be placed on new programs and initiatives (below).

The director's office plans to hire a new Senior Web Developer in early 2007.

Development Plans

Focus on new programs and initiatives:

- Pilot project to convert newsroom and news release site to WCMS
- Develop Web-based Video addition to DNRP Newsroom Web site
- Redesign DNRP home page
- Redesign Green Globe Award site
- News Release Publishing
- (potential) Set the Record Straight Web site to respond to misinformation

II. GIS Center

GIS Center Program overview

The GIS Center supports and maintains the county's geographic information systems and although housed in DNRP, the center functions as a countywide IT group. The portions of the GIS Center that intersect with the Web are in the maintenance and development of its GIS services website and ArcIms Web-based interactive mapping systems.

Development Plans

Redesign of GIS Center Web site and migration to Web Content Management System.

III. WTD

Program Overview

The WTD Web site is highly focused on the division's wastewater treatment systems, processes, projects and news. The design of the site is consistent with DNRP and WLR sites that are based on a Web template and style sheet developed in 1998. The plan for 2007 includes maintaining existing sub-sites and pages and preparing for the implementation of the King County Web Content Management System (WCMS).

General Needs

- Convert a sub-site to WCMS as a pilot project (TBD) to prepare for full-scale WCMS implementation

Development Plans

- HR site (new)
- WTD Facilities Locator using google maps (new)
- CSO Real Time Monitoring (new)

Ongoing Updates

- Home page, news releases, featured Web pages
- Capital project (Brightwater, conveyance projects) construction and news updates
- Industrial Waste site redesign (either to current set of templates or migrate to WCMS)
- Biosolids site redesign (either to current set of templates or migrate to WCMS)
- WTD program (CSO, CSI, I/I, RWSP, Sediment Management, etc.) updates
- Link repairs and requests

IV. WLRD

Program Overview

The WLR Web site is among the first agency websites to be published by King County government and is supported by over 20 Web developers working independently throughout the division. The site provides a vast selection of topics and services and is the most-visited division site in DNRP. The site design has changed little since 1998 and navigation structure will be updated as the site migrates to WCMS. The plan for 2007 will include some new development work, planning, restructuring and redesign work, and consolidation of development workspace, along with maintaining existing sub-sites.

Hazardous Waste, an inter-jurisdictional sub-group, anticipates implementing major changes to its site in accordance with business plans that are under development as of early 2007.

General Needs

Convert a sub-site to WCMS as a pilot project, plan for overall site move
Hazardous Waste plans to hire a new Web developer as soon as possible in 2007.

Development Plans

Groundwater educational site w/ flash
Launch Shoreline Master Program update site including parcel-based data application
Dynamic event calendar to update the Dirt
Flood Warning Center update – deploy phase change detection, incorporate data graphing, and build out wireless data access
Sitemap
CIP mapping application
Rural Stewardship application
Irac Web site addition
Hydrologic Information Center update
Hazardous Waste site updates- tbd

Ongoing updates

- Home page, watersheds, topics, indices
- Shorelines Master Program Sharepoint site and account maintenance
- Shorelines Master Program Update site
- Natural Lands
- Implement CRM
- Evaluate Web correspondence & survey data, respond as needed

- Link repairs & requests
- Site content audit and sub-site retirement

Yearly updates and promotions

- Spring into Action
- Puget Sound Fresh
- Fall for Salmon

VI. *SWD*

Program Overview

The SWD Web site was completely redesigned in late 2004. The plan for 2007 will include some new development work, but will mainly focus on maintaining, updating, and promoting existing sub-sites.

General Needs

Establish long-term service package for staging SQL server.

Development Plans

Deploy a new site-wide Blog component that will easily plug into SWD program Web sites, enabling program managers to interact with the public in real time. The EcoConsumer site will be the first to have a blog (mid-January) followed by the LinkUp program (1st quarter 2007). Completely re-build/re-organize the LinkUp site, including new architecture, graphics and components. Develop a new Green Building Web site incorporating a new look and feel along with existing information and a new database-driven green building resources component.

Yearly updates and promotions

- EcoDeals
- Online Materials Exchange promotion
- Northwest Natural Yard Days
- Waste-free Holidays
- Christmas Tree Recycling

VI. Parks

Program Overview

The Parks Web site was completely redesigned in 2006 The plan for 2007 will focus primarily on maintaining the updated site while improving parks maps and searchability.

General Needs

- Consolidate Parks site onto one server
- Ensure ongoing Web support to maintain site
- Conserve look and feel in for the duration of “Your Big Backyard” branding initiative

Development Plans

- Improve searchability and parks maps

Ongoing updates

- Fix bad links, general maintenance
- Coordinate with Public Affairs for Web updates

Yearly updates and promotions

- King County Fair

Appendix A

King County

DNRP WEB COORDINATION COMMITTEE

*Charter**

January 31, 2006

Purpose:

This charter establishes roles, membership, and guidelines for the DNRP Web Coordination Committee.

Role:

As the DNRP Web Coordination Committee, the committee will:

- Coordinate DNRP Web program and agency Web programs and develop an operations and maintenance plan for committee adoption, within the framework of Dept. Public Affairs plans and overarching enterprise Web plans.
- Develop and establish Web protocols, policies, standards, production systems, and best practices for DNRP Web programs, and recommend for countywide adoption by ITS and the office of the Executive.
- Advocate and seek support for system improvements that meet the needs of the department, divisions and programs.
- Recommend Web policy to countywide Web Representatives Committee for adoption.
- Monitor the use of approved Web standards and best practices and moderate resolution of issues.
- Inventory existing Web data and applications and coordinate data and application development efforts.
- Provide a forum for discussion of emerging Web technical issues and address programmatic issues.
- Educate agencies about the value Web operations will add to business practices.

Leadership:

The committee will led by the technical Web representative for the department.

Membership:

Membership will consist of representatives from the following department agencies/groups:

DNRP/Content Public Affairs (hiring)	GIS Center, Lisa Castle	Water & Land Resources, Fred Bentler
DNRP/ functional-technical rep. Fred Bentler	Parks and Recreation, Mel Boupharath	Wastewater Treatment Division Jamie Foulk
DNRP/programming, Deanna Duke & Eric Maia	Solid Waste Division, Jay Beach	

The list of participating DNRP Web publishing agencies will be reviewed and updated yearly.

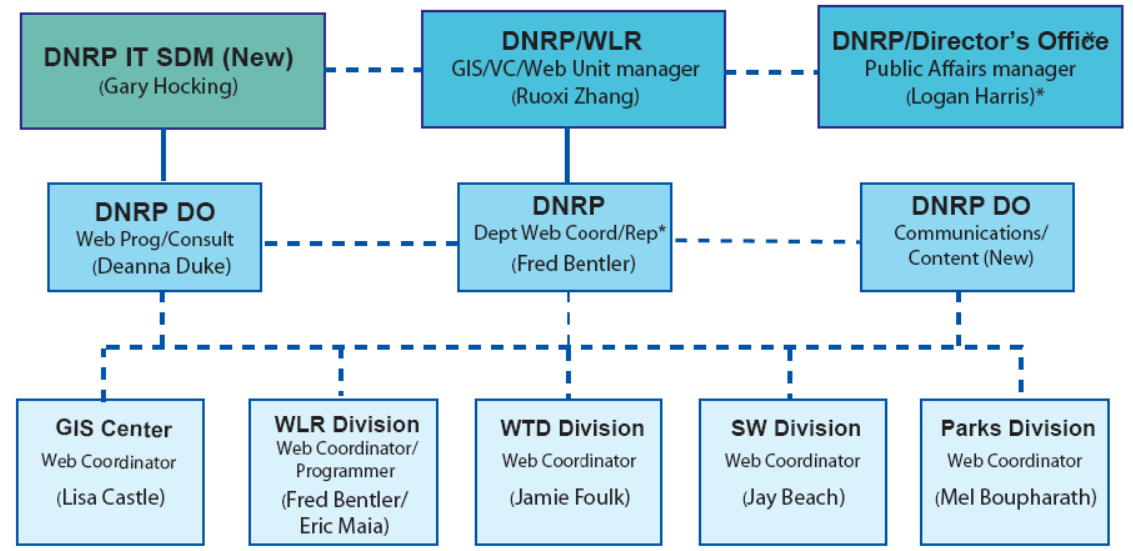
Operating Assumptions and Guidelines:

- Meetings will be held at least monthly, and more often if necessary.
- Decisions will be made by consensus of members or designated alternates present. If consensus cannot be reached within the DNRP Web Coordination Committee, the issue will be referred to the DNRP Communications manager and GIS/VC/Web manager for resolution.
- The DNRP Web Coordination Committee will establish and adhere to ground rules.

*This charter is based on the King County GIS Technical Committee charter, adapted for use for the DNRP Web Coordination Committee.

Existing

DNRP Dept/Divs Web Coordination Structure/Functions



Coordination Relationship
- Systems Consistency
- Standards, Process, Protocols
- Organization & Connectivity
- Recommendations & Initiatives

Reporting Relationship
- Business Accountability
- Directions & Priority setting

Reporting Relationship to be determined

* Logan Harris is the web content rep, and Fred Bentler is the web tech/coord rep in KC OIRM/ITS Dept. Web Representatives Committee.

Updated Jan. 22, 2007

Appendix B
Team Norms and Protocols*
DNRP Web Coordination Committee

Both at the meetings and outside the meetings.

- Treat each other with respect; specifically do not interrupt each other
- Be honest and supportive with one another.
- Communicate directly with affected parties.
- Contribute to the team's progress.
- Reach consensus and support group decisions.
- Be open to new ideas.
- Encourage participation from all.
- Listen actively and non-defensively.
- Criticize constructively - don't complain or condemn.
- If necessary, remind one another of the ground rules.
- Take responsibility for effective delivery of agreed upon messages to staff.
- Don't be a party to rumors.
- Ask questions for understanding
- Use the principles of project and matrix management and as functional managers, insist that your staff do the same.

Specific to the Meeting

- When the discussion appears to get off topic; re-direct by cycling back to the issue
- Keep to the agenda and timeline
- Set meeting time at a reasonable time so people show up on time
- If more than 2 people are missing cancel the meeting
- If only one person is missing, and the facilitator was notified in advance of the start time of the meeting, continue the meeting but defer major decisions until the person is present
- If a person is absent with out notice, have the meeting and the assumption is that the missing person has opted to abdicate decisions to the group.

Conflict Management Protocols

Conflicts are inevitable whenever work is being conducted across multiple groups in King County because often there is more work than resources to get the work done. Additionally, the very nature of work in the Department of Natural Resources and Parks Web require staff from varied disciplines to work together to implement solutions. Their varied approaches and perspectives prompts rich discussion and at times, disagreements. These are opportunities to identify new and creative solutions. Yet these opportunities need to be balanced with timely resolutions. A long drawn out conflict resolution process can hold projects hostage during the process. This policy will provide guidance to resolve conflicts at the appropriate level and in a timely manner.

Conflicts are handled at the lowest possible level and elevated up the project hierarchy only if initial attempts to reach resolution between the two parties have failed.

Predictable Types of Conflict

- Professional/technical philosophy and methodology
- Access to resources
- Confusion over roles and responsibilities
- Follow through on commitments
- Disagreement and lack of clarity on technical quality
- Poor performance
- Appropriate level of involvement in project decisions

How to Manage Conflicts

a) Head off potential conflicts by:
- Knowing how to use matrix and project management tools and resources
- Work together early on to come up with solutions.
- Practice open communication
- Recognize and respect style differences.

b) Work to understand each other's needs and perspectives through listening and asking questions.

c) To ensure decisions "stick" once they are made, they should be explicit and the appropriate parties are informed.

d) Once a resolution is reached all parties involved should agree to support the resolution and not engage in passive-aggressive behavior that would make a resolution meaningless or sabotage the other's work.

e) Document the impacts of the conflict resolution decision, especially for the party that may have to give something up, and share with the next level up in the hierarchy.

f) Manage specific work plan items with an eye toward the project mission, rather than just the good of individual programs or sections. Based on the understanding that there are limited resources and we can't meet all needs.

Decision Making Protocols

Overall Decision-making Guidelines:
The team should determine how it will make decisions in advance. If team members choose consensus, the process is outlined below:

- Discuss the topic until most team members can support or at least live with the decision.
- Those who cannot live with the decision must explain their concerns.
- The team addresses those concerns through further discussion or revising the decision.
- Repeat until all members can support or live with the decision.
- No abstaining. Members must be willing to make a written or verbal agreement as defined above.

- If needed, minority opinions can be documented for the record.

To avoid getting stuck in a loop, team members should choose a modified version of consensus in which there is a time limit after which the issue is sent to the sponsor with pro and con statements for decision.

*This document has is based on the "Meeting Norms and Protocols" for Water and Land Resources Division, adapted for use by the DNRP Web Coordination Committee.

Appendix C

Resolving Conflict*

DNRP Web Coordination Committee

1. **Prepare**

   Think about a good time and place to talk directly. Think about what you need to feel better. Get curious about what the other person needs. Before meeting, ask yourself:

   - What is bothering me about the situation?
   - Why is it important for the situation to change?
   - What do you think the other person might need?
   - What do you need?

2. **Raise the Issue**

   Express a desire to work together to find a mutual agreeable solution.

   - Make a neutral statement about the issue you want to discuss ("I would like to talk about workload," rather than " You are dumping too much work on me")
   - Brief describe your perspective, focusing on your interests, not your position."*
   - Ask to hear the other person's perspective

3. **Discover Interests***

   Use Active listening skills to understand the other person's perspective.
   - Listen with respect and without interrupting.
   - Repeat/Summarize what the other person says.
   - Acknowledge the other person's feelings.
   - Ask questions to get information, not to challenge.

4. **Generate Options**

   Work together to think of options that meet both your needs.

   - Ask the other person for ideas before presenting yours.
   - Look for options that meet both your interests.
   - Don't dismiss any options until they are fully discussed.

5. **Make Agreements**

   Review the agreement to assure clarity.

- Evaluate the options against both your interests.
- Summarize the agreements, including timelines.
- Write the agreement down; be specific!

6. Helpful Questions

For Exploring Interests

- What would you like to see happen?
- What is more important to you?

For Generating Options

- If we could find a solution that met my need for _____ and also addressed your interest in _____, would you consider it?
- What solutions would accommodate both of our needs?

For Coming to Agreement

- What part of that option might work for you?
- What part of that option doesn't work for you?

Definitions:

Positions-Demands/statement of what someone says they will or will not do –that person's solution.

Interests, underlying needs, concerns, hopes or fears – the reason that person's solution is important to them

*This document has been adapted for use by the DNRP Web Coordination Committee from the Pocket Guide, "Resolving Conflict", by King County Alternative Dispute Program.

Appendix J – King County Solid Waste Division Cashiering System Standby & Call-out Procedures

GENERAL STAFF REQUIREMENTS

- All standby staff are responsible for keeping charged batteries, maintaining and testing their assigned equipment (laptops, pagers and cell phones.)
- The scheduled standby staff will make the following notifications if trading standby assignments with another employee: Division Information Systems Manager and Payroll Supervisor.

Cashiering System Standby Staff DURING NON-BUSINESS HOURS

Standby pay

- Staff are paid ten percent (10%) of their base hourly rate for all hours on standby.
- Only one staff person is on standby at a time unless otherwise instructed or arranged by the Division Information Systems Manager.

Standby hours

- Standby hours include a half-hour (0.5 hours) for pre and post coverage at transfer and disposal sites. This half-hour is a total figure for 15 minutes prior to opening time and 15 minutes past closing time.
- Standby hours on weekdays are:
  - All SWD site operating hours less the normal work shift, less 0.5 hours for lunch and plus 0.5 hours for pre/post coverage.
  - See Appendix A for current hours and totals.
- Standby hours on weekends are:
  - All SWD site operating hours plus 0.5 hours for pre/post coverage.
  - See Appendix A for current hours and totals.
- Standby hours for HOLIDAYS are:
  - 7 hours holiday plus all SWD site operating hours plus 0.5 hours for pre/post coverage.
  - See Appendix A for current hours and totals.

Staff availability

- The standby staff will remain within a one (1) hour response time of his/her home based upon normal travel conditions.
- The standby staff will have access to laptop computer, pager, and cell phone 24 hours a day while on duty.
- Return calls to all pages will be accomplished within 30 minutes of receipt of the page.
- If the standby staff takes paid time off and is AVAILABLE for standby, he/she receives standby pay.
- If the standby staff takes paid time off and is UNAVAILABLE for standby, his/her backup receives standby pay.

Problem resolution

- When paged, the standby staff will first attempt to correct the problem remotely, most likely through online access.
- If remote resolution is successful, staff will be paid for a minimum of 0.5 hour and a maximum of real-time online to respond to the problem.
- If remote resolution is unsuccessful (or deemed not feasible for the scope of the problem) and a site visit is necessary, staff will be paid a minimum of four hours, starting with the page response and ending upon return to his/her home.
- Mileage will be paid from home to and from the site when a site visit is necessary.

Responsibilities

- When assigned as standby staff, no alcohol or drugs that may impair decision-making processes will be consumed.
- Standby staff represent the Solid Waste Division and King County government, and will follow all personnel policies and procedures when on assignment.
- If an emergency arises during non-business hours and the standby staff is unable to perform his/her duties, the Division's Information Systems Manager will be immediately notified. If unable to contact the Information Systems Manager, the Operations Supervisor on duty and/or the Finance & Administration Manager will be immediately notified.

Appendix A for operating hours as of 2/17/04

- Standby hours for weekdays are:
  - From 6:00 a.m. until start of normal work shift
  - From end of normal work shift until 11:30 p.m.
  - 0.5 hours lunch is standby time and an additional 0.5 hours (total – two 15 minute intervals) for pre/post coverage, this totals 11 hours
- Standby hours for SUMMER weekends are:
  From 6:30 a.m. to 6:00 p.m. plus 0.5 hours (total – two 15 minute intervals) for pre/post coverage = 12 hours
- Standby hours for WINTER weekends are:
  From 6:30 a.m. to 5:30 p.m. plus 0.5 hours (total – two 15 minute intervals) for pre/post coverage = 11.5 hours
- Standby hours for holidays when the SWD sites are open are:
  - All SWD site operating hours, plus 0.5 hours (total – two 15 minute intervals) for pre/post coverage. This is 6:00 a.m. to 11:30 p.m. = 17.5 hours plus 0.5 pre/post coverage = 18 hours
  - Staff are also paid holiday hours for their regular shift hours. Most staff are on 7 hour work days.
  - Adding 18 standby hours to 7 holiday hours equals 25 hours. The payroll system will not process a 25 hour day. In this case, staff charge the 25th hour to the next day.
- There is no standby pay for holidays when the SWD sites are closed.